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ABSTRACT

Quarterly offending data from the National Crime Survey 1973-78 (NCS) were used to address the question: what effect do economic conditions have on criminal behavior over time? A total rate of offending in personal crimes as well as crime specific rates for robbery, aggravated assault, and simple assault were examined. Analysis focused on three major issues. The first involved analysis of the general relationship between economic conditions (unemployment, Consumer Price Index, and Gross National Product) and overall rates of offending (total, robbery, aggravated assault, and simple assault). These economic conditions were shown not to be related to NCS rates of offending. The second issue was the relationship between age-race-sex specific rates of offending. Analysis found virtually no relationship between quarterly fluctuation. The third major issue was the interrelationship between adult unemployment and juvenile crime. Sex and race specific adult unemployment rates were correlated with comparable sex and race offending rates for juvenile (12-17) and youthful (18-20) offenders. Only four of 32 relationships were found statistically significant. (Appendixes, amounting to approximately one-half of the report, include annotations and references to relevant literature, NCS questionnaire, offender age in NCS data, and bibliography.) (YLB)

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U.S. Department of Justice
Office of Juvenile Justice and Delinquency Prevention
National Institute for Juvenile Justice and Delinquency Prevention

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Analysis of National Crime Victimization Survey Data To Study Serious Delinquent Behavior

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Monograph Four

Juvenile Criminal Behavior and Its Relation to Economic Conditions

by
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May 1981

CE 030 843

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Suburban, and Rural Areas

Juvenile Criminal Behavior and Its Relation
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Juvenile Criminal Behavior and Its Relation to
Neighborhood Characteristics (*forthcoming*)

Analysis of National Crime Victimization Survey Data To Study Serious Delinquent Behavior

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TABLE OF CONTENTS

Page

List of Figures iv

List of Tables v

Executive Summary 1

I. Introduction 3

II. Description of the Data 7

  A. National Crime Survey Data 7

  B. Unemployment Statistics 11

  C. Other Economic Indicators 13

  D. Definitional Concerns 14

III. Total Rates of Offending and National Economic Indicators . 17

IV. Unemployment and Crime - An Age, Race, Sex Specific Analysis 33

V. Adult Unemployment and Juvenile Crime 41

VI. Concluding Remarks 49

Notes 53

Appendix A: Annotations and References of the Literature on the Relationship between Economic Conditions and Criminality 57

Appendix B: NCS Household Interview Schedule 85

Appendix C: Offender Age in National Crime Survey Data 94

Appendix D: Population Base Estimates 109

Appendix E: Type of Crime Definitions 111

References 113

LIST OF FIGURES

Page

Figure 1 Estimated quarterly rates of offending (per 100,000 potential offenders in the population), by type of crime, NCS national data, 1973-1978 18

Figure 2 Quarterly data for the total unemployment rate for the population 16 and older, the Consumer Price Index, and the Gross National Product, national data 1973-1978 19

LIST OF TABLES

		Page
Table 1	Zero-order correlation coefficients between quarterly NCS rates of offending (per 100,000 potential offenders in the population) and economic indicators, by type of crime, national data 1973-1978	21
Table 2	Multiple regression results of NCS quarterly rates of total offending in personal crimes (per 100,000 potential offenders in the population) regressed on each economic indicator and seasonal dummy variables, national data 1973-1978	28
Table 3	Multiple regression results of NCS quarterly rates of aggravated assault offending (per 100,000 potential offenders in the population) regressed on each economic indicator and seasonal dummy variables, national data 1973-1978	30
Table 4	Multiple regression results of NCS quarterly rates of simple assault offending (per 100,000 potential offenders in the population) regressed on each economic indicator and seasonal dummy variables, national data 1973-1978	31
Table 5	Multiple regression results of NCS quarterly rates of robbery offending (per 100,000 potential offenders in the population) regressed on each economic indicator and seasonal dummy variables, national data 1973-1978	32
Table 6	Multiple regression results of NCS quarterly rates of total offending in personal crimes for males (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of male unemployment and seasonal dummy variables, by race and age of offender, national data 1973-1978	36
Table 7	Multiple regression results of NCS quarterly rates of aggravated assault offending for males (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of male unemployment and seasonal dummy variables, by race and age of offender, national data 1973-1978	37
Table 8	Multiple regression results of quarterly rates of simple assault offending for males (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of male unemployment and seasonal dummy variables, by race and age of offender, national data 1973-1978	38
Table 9	Multiple regression results of NCS quarterly rates of robbery offending for males (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of male unemployment and seasonal dummy variables, by race and age of offender, national data 1973-1978	39

Page

Table 10 Multiple regression results of NCS quarterly rates of total offending in personal crimes (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of adult (21 or older) unemployment (by race and sex) and seasonal dummy variables, by race and age of male offenders, national data 1973-1978 43

Table 11 Multiple regression results of NCS quarterly rates of robbery offending (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of adult (21 or older) unemployment (by race and sex) and seasonal dummy variables, by race and age of male offenders, national data 1973-1978.. 45

Table 12 Multiple regression results of NCS quarterly rates of aggravated assault offending (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of adult (21 or older) unemployment (by race and sex) and seasonal dummy variables, by race and age of male offenders, national data 1973-1978 47

Table 13 Multiple regression results of NCS quarterly rates of simple assault offending (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of adult (21 or older) unemployment (by race and sex) and seasonal dummy variables, by race and age of male offenders, national data 1973-1978 48

Executive Summary

In this monograph quarterly offending data from the National Crime Survey (1973 to 1978) are used to address the question -- what effect do economic conditions have on criminal behavior over time? A total rate of offending in personal crimes (rape, robbery, aggravated assault, simple assault, and personal larceny) as well as crime specific rates for robbery, aggravated assault, and simple assault are examined. It is our view that for the 1973 to 1978 period these findings should be interpreted as not having demonstrated an important relationship between the economic and rate of offending indicators used in this study.

Overall, the analysis focused on three major issues. First, the general relationship between economic conditions (unemployment, Consumer Price Index, and Gross National Product) and overall rates of offending (total, robbery, aggravated assault, and simple assault) was analyzed. In all cases these economic conditions were shown not to be related to NCS rates of offending for these personal crimes.

The second issue addressed was the relationship between age-race-sex specific unemployment rates and comparable age-race-sex specific rates of offending (total, robbery, aggravated assault, and simple assault). This analysis showed virtually no relationship between quarterly fluctuations in age-race-sex specific unemployment rates and comparable age-race-sex specific rates of offending. Two exceptions were found:

1) The unemployment rate for white males 14 to 17 was positively related to the rate of robbery offending for white males 12 to 17.

2) The unemployment rate for white males 21 or older was negatively related to the robbery rate of offending for this subgroup.

The third major issue explored was the interrelationship between adult unemployment and juvenile crime. Specifically, sex and race specific adult unemployment rates were correlated with comparable sex and race offending rates for juvenile (12 to 17) and youthful (18 to 20) offenders. Out of 32 relationships only four were found to be statistically significant ($p < .10$). These cases were:

1) Adult unemployment for white males was positively related to the rate of robbery for white males 12 to 17.

2) Adult unemployment for white females was negatively related to the rate of aggravated assault for white males 18 to 20.

3) Adult unemployment for black females was positively related to the total rate of offending for black males 12 to 17.

4) Adult unemployment for black females was positively related to the rate of robbery for black males 12 to 17.

Generally, it appears that for the relationships under investigation in this report, few significant relationships were found when various economic indices were correlated with rates of offending (total, robbery, aggravated assault, and simple assault). Furthermore, the relationships found to be statistically significant can most likely be explained by the laws of probability in that as the number of regression analyses increased, the number of significant relationships found increased as well.

Juvenile Criminal Behavior and Its Relation to Economic Conditions

I. Introduction

It has long been argued that economic factors, either directly or indirectly, affect the amount of crime present in a society (e.g., Bonger, 1916; Sellin, 1937; and more recently Brenner, 1976).[1] Perhaps one of the causes of crime most commonly alluded to is unemployment, which is also viewed as one of the leading gauges of economic conditions in the United States today. The unemployed individual is assumed not only to have the economic motivation to commit crime, but also the necessary free time to indulge in these unlawful acts (see Danziger, 1976; Weller, Block and Nold, 1978). In addition some view unemployment as the starting point of a frustration-aggression continuum. That is, the unemployed individual becomes increasingly frustrated with his economic state, and eventually vents his frustration in aggressive acts (see Henry and Short, 1954).

Considerable attention has been given to alleviating the problems of unemployment and crime by the media, citizens groups, and various governmental agencies across local, state and federal levels. Before these problems may be adequately addressed, however, a firm understanding of the relationship between unemployment and crime is necessary. John Conyers, Chairman of the Subcommittee on Crime of the House Judiciary Committee, recently wrote:

> Would not a large-scale project examining the relationship between crime and unemployment (as well as other economic variables) make the most sense from the point of view of public policy? Particularly needed is more specific research on subgroups, such as teenagers, and the particular economic circumstances they face (Conyers, 1979:142).

This statement can be viewed as the focus of this report. This research will examine the extent to which quarterly fluctuations in economic conditions are associated with concomitant fluctuations in rates of offending, with particular emphasis on juvenile offenders. Most of our analytic focus will be on the economic indicator unemployment, with peripheral attention being given to the Consumer Price Index and the Gross National Product. Thus, this report will provide empirical data on the relationship between unemployment and offending for specific subgroups in the population as well as general information on national economic conditions and the overall rate of crime.

Studies on Economic Conditions and Crime

Early empirical work relating crime and economic conditions was plagued by many shortcomings. Measures of criminality and economic conditions, taken from dissimilar geographical areas, were correlated. For example, local or state indices of criminality were correlated with national economic indices (e.g., Davies, 1922; Ogburn and Thomas, 1922; Warner, 1934). Studies that did contain similar data sources were for the most part local, with little, if any, work done on the national level (e.g., Wagner, 1936; Maller, 1937; Bogen, 1944). Some of the indices representing economic conditions in these early works were measures of wheat prices, pig iron production, or coal production. Measures of criminality varied from arrest data to court appearances to prison admissions. In an exhaustive review of the research done up to, and including, the depression era, Thorsten Sellin (1937) argued that interpretation of the research on the relationship between economic conditions and criminality was difficult because of the disparity in indices used to measure conditions and the non-comparability of offense classification.

Recent research on economic conditions and crime has attempted to address some of these measurement problems through the use of improved official crime statistics, namely Uniform Crime Reports (e.g., Votey and Phillips, 1969; Phillips, Votey and Maxwell, 1972; Payne, 1978). Use of these official data sources assumes that arrested persons are representative of the offender population. That is, selection for arrest is not biased because of the offender's personal characteristics. In opposition to this assumption, it has been argued that selection biases do in fact exist and less powerful groups are more likely to be chosen for official processing (e.g., Chambliss and Seidman, 1971; Quinney, 1970). Because these recent studies have attempted to look at the relationship between offending by specific subgroups (e.g., taking into account correlates such as age, race, and sex) and the economic conditions they face (most notably unemployment), and because age, race and sex are variables thought to be differentially related to detection and arrest, it is crucial to have available a data source free from the biases that may be present in official data.

Prior to the 1950's, correlates of crime such as age, race and sex were studied almost exclusively with official police and court records. In the late 1950's, however, Short and Nye (1957, 1958) developed a "self-report" technique that identified offenders without the help of official criminal justice system records. One serious drawback to using this self-report method, as it has been used to date, is that it has been unable to measure serious criminal behavior. For this reason, it has not proven to be as valuable as anticipated as a substitute for, or supplement to, official data (McDermott and Hindelang, 1981).[2]

Recently, the Law Enforcement Assistance Administration, in cooperation with the Bureau of the Census, has generated data about crime that, like self-reports, are independent of the selection mechanisms of the criminal justice system, but unlike self-reports, contain information about relatively serious crimes. These data form the basis of this monograph and are generated in an ongoing survey of the general population of the United States that is designed to ascertain the nature and extent of criminal victimizations that may have been suffered by respondents. These National Crime Survey (NCS) results can shed light on some of the basic questions surrounding serious criminal behavior.

This research monograph is intended to provide an analysis of the relationship between rates of offending and economic conditions (particularly unemployment) utilizing the NCS data source. Attention will focus on the relationship between crime specific rates of offending for various age-race-sex specific subgroups and rates of unemployment for age-race-sex specific subgroups. The questions to be addressed include: Is unemployment related to crime in the United States for the quarters during the 1973 to 1978 time period? Does this relationship hold across different age groups? Race groups? Sex groups? Does the relationship vary across type of crime categories? Is adult unemployment related to juvenile rates of offending?

Before presenting the analysis, Section II provides a brief description of the data sources utilized in this report. Section III of this report presents national rates of offending (independent of demographic characteristics) and their relationship with national economic indices for the years 1973 through 1978. This is intended to provide the reader with an overall picture of crime and economic trends for the period of time being studied. Section IV focuses on the relationship between crime specific rates of offending for various age-race-sex specific subgroups and their corresponding unemployment rates. Relationships found among subgroups of juvenile offenders (12 to 17) will be compared with relationships found among subgroups of youthful offenders (18 to 20) and adult offenders (21 or older). The fifth section of this research monograph examines the relationship between adult unemployment and juvenile and youthful rates of offending for age-race-sex specific subgroups.

II. Description of the Data

A. National Crime Survey Data

The crime data are from the National Crime Survey (NCS) national sample, collected by the United States Bureau of the Census, in cooperation with the Law Enforcement Assistance Administration. In the national survey, probability samples of housing units were selected on the basis of a stratified multistage, cluster design.[3] The crime data used in this monograph cover the years 1973 through 1978.

The total annual sample size for the national surveys is about 60,000 households containing about 136,000 individuals. The total sample is composed of six independently selected subsamples of about 10,000 households with 22,000 individuals. Each subsample is interviewed twice a year about victimizations suffered in the preceding six months. For example, in January about 22,000 individuals (in 10,000 households) are interviewed. In the following month, and in each of the next four succeeding months, an independent probability sample of the same size is interviewed.

In July, the housing units originally interviewed in January are revisited and interviews are repeated; likewise, the original February sample units are revisited in August, the March units in September, etc. Each time they are interviewed in the national survey, respondents are asked about victimizations that they may have suffered during the 6 months preceding the month of the interview. Thus, the national survey is conducted using a panel design; the panel consists of addresses. Interviewers return to the same housing units every 6 months. If the family contacted during the last interview cycle has moved, the new occupants are interviewed. If the unit no longer exists or is condemned, it is dropped from the sample, but new units are added to the sample periodically. For household units this is accomplished by a continuing sample of new construction permits. No attempt is made to trace families that have moved.[4] Housing units in the panel are visited a maximum of seven times, after which they are rotated out of the panel and replaced by a new, independent probability sample; maximum time in the sample for any housing unit, then, is 3 years.

This monograph is concerned with the personal crimes of robbery and assault, both aggravated and simple. Although data are collected on the personal crimes of rape, personal larceny, and commercial robbery, these crimes will not be included here because there are not a sufficient number of cases to provide detailed breakdowns by quarter. Our analysis will, however, include a rate of total offending in personal crimes, which consists of the specific crimes of rape, robbery, aggravated assault, simple assault, and personal larceny with contact. The household crimes of burglary, larceny from the household, motor vehicle theft and the commercial crime of burglary will also be excluded from the analysis. Our analysis requires reports from victims regarding what transpired during this event -- particularly regarding offender characteristics such as the perceived age of the offender -- and hence only those crimes generally involving contact between victims and offenders will yield this information. The details about what happened during the event are gathered by means of personal interviews with the victims themselves.

Depending on whether there was one or more than one offender reported by the victim to have been involved in the incident, victims are asked one of two series of questions relating to offender characteristics (see NCS household interview schedule in Appendix B). If a lone offender victimized the respondent, the offender's characteristics are simply recorded. If more than one offender was involved, it is of course possible to have offenders of different ages, sexes and races. Because age is used repeatedly throughout this monograph, Appendix C explains in detail how each of the offender age variables was created. In general, the tables and figures shown in this monograph in which both lone and multiple-offender incidents are included, use the age of the oldest multiple offender. Preliminary analysis shows that more often than not multiple offenders fall into the same age group; for this reason, whether the youngest or the oldest multiple offender is used has little impact on the results (see Appendix C for more details).

The analysis of offender characteristics in this research monograph will be based exclusively on rates of offending. That is, each crime rate will take into account the number of potential offenders in the specific age, race and sex population subgroup of interest. The rates of offending used in this report are designed to parallel arrest data as closely as possible. That is, given that the survey data are incapable of providing information on the number of distinct offenders involved in offenses suffered by different victims, the rates of offending take into account the total number of offenders in each age-race-sex subgroup theoretically subject to arrest for the offense reported to survey interviewers. This is accomplished by taking into account all offenders of each age-race-sex subgroup for each incident reported. For example, if one victim reports having been victimized by one white male adult and two white female juveniles and another victim reports having been victimized by one black female adult and one white male adult, the age-race-sex subtotals of offenders for these victimizations would be two white male adults, two white female juveniles, and one black female adult. This subtotaling process continues across all incidents reported to survey interviewers and results in an estimate of the total number of offenders for each age-race-sex subgroup.[6] These subgroup totals serve as the numerators for the rates of offending reported in this monograph;[7] the denominators are estimates of the number of persons in the general population (i.e., potential offenders) in each age-race-sex subgroup.[8] Rates of offending are computed per 100,000 potential offenders and they convey the extent to which persons with particular demographic characteristics are disproportionately involved as offenders in personal victimization (Hindelang and McDermott, 1981).

On the basis of the details of precisely what transpired -- whether force or threat of force was used by the offender, whether some theft was attempted or completed, whether serious injury was sustained, etc. --

crimes are classified according to definitions used in the Uniform Crime Reports (FBI, 1978). The elements constituting these definitions are shown in Appendix E for each of the major types of crime used herein.

Because the major economic indicators to be examined in this research are age-race-sex specific unemployment rates, the Consumer Price Index, and the Gross National Product, a somewhat detailed description of the official data collection procedures used to compile these figures will be provided.

B. Unemployment Statistics

The national unemployment statistics used in this report are collected by the Bureau of the Census in their Current Population Survey for the Bureau of Labor Statistics. Monthly surveys are conducted utilizing a randomly selected sample of persons representing the civilian non-institutional population.[9] Respondents are interviewed concerning the employment status of each member of the household 16 years of age and older.[10] These data are based on employment activity or status during the calendar week which includes the 12th of the month.

There are about 50,000 occupied households eligible for an interview each month representing 461 areas in 923 counties and independent cities, with coverage in 50 states and the District of Columbia. During each month there is a non-interview rate of about 4 percent. The sample itself varies from month to month. There is a rotation plan that provides for 75 percent of the sample to be common from one month to the next, with 50 percent of the overall sample in common with the same month of the previous year.

The Civilian Labor Force, which is used as the basis for computing the unemployment rates, is composed of all persons classified as employed or unemployed, according to the following definition. Employed persons consist of those falling into the following three categories: a) all those who during the survey week did any work at all as paid employees in their own business, profession, or farm, or who worked 15 hours or more as unpaid workers in an enterprise operated by a member of the family, b) all those who were not working but who had jobs or businesses from which they were temporarily absent because of illness, bad weather, vacation, labor-management dispute, or personal reasons, whether or not they were being paid, and whether or not they were looking for other jobs, c) employed citizens of foreign countries, temporarily in the U.S. and not living on Embassy premises. Persons not considered employed are those whose work consisted of working around one's own home, those performing volunteer work for charitable organizations, inmates of institutions, and members of the armed forces (U.S. Department of Labor, 1980a:152).

Unemployed persons comprise all persons who did not work during the survey week, who made specific efforts to find a job within the past 4 weeks, and who were available for work during the survey week (except for temporary illness). Also included in the unemployed category were those who did not work at all, but were available for work, and (a) were waiting to report to a new wage or salary job within 30 days; or (b) were waiting to be called back to a job from which they had been laid off (U.S. Department of Labor, 1980a:152). This category does not include persons in school who are looking for work to begin at the end of school year, because they do not meet the availability standard. Anyone not classified as employed or unemployed according to the above criteria is not considered to be in the Civilian Labor Force. The unemployment rate is calculated by dividing the number of unemployed persons by the Civilian Labor Force. Because the data collected are age-race-sex specific, it is possible to construct age-race-sex specific unemployment rates for any subgroup of the population, 14 years of age or older.

C. Other Economic Indicators

The Consumer Price Index (CPI) is provided by the U.S. Department of Labor through the Bureau of Labor Statistics. This index measures average changes in prices paid for goods and services by urban wage carriers and clerical workers, including families and single persons living alone[11] (U.S. Department of Labor, 1980b:147). These goods and services are classified as customarily "purchased for daily living," and include such items as food, shelter, utilities, and clothing.

Prices are collected in 85 urban areas across the country. A national index is constructed using a weighting procedure.[12] The index measures price changes using 1967 as the base (1967=100). For example, an increase of 15 percent is shown as 115.0. An increase in prices can also be expressed in dollars -- the price of a base period "market basket" of goods and services in the CPI has risen from $10 in 1967 to $11.50[13] (U.S. Department of Labor, 1980b:147).

The Gross National Product (GNP) is published by the U.S. Department of Commerce in conjunction with the Bureau of Economic Analysis. It is defined as "the market value of the goods and services produced by the labor and property supplied by residents of the United States, before deduction of depreciation charges and other allowances for business and institutional consumption of capital goods" (U.S. Department of Commerce, 1978:1). It comprises the purchase of goods and services by consumers and government, gross private domestic investment, and net exports. The GNP used in this report is measured in constant dollars, using 1972 as a base. That is, subsequent years are adjusted using a price index based on the dollar value of goods in 1972.[14]

All the economic and crime data in this report cover the years 1973 through 1978. All computations and figures based on quarterly data (those presented in Sections III, IV, and V), are determined by the calendar year (i.e., the first quarter contains the months January to March, etc.). Thus, there are 24 data points available for analysis.[15] Although using monthly data would increase by three times the number of data points in the analysis, quarterly data will be used to increase the reliability of data by maintaining larger sample sizes for quarterly periods.

D. Definitional Concerns

In the present analysis there are some measurement problems that may affect the victimization survey results. For example, we know relatively little regarding the ability of victims to accurately describe offenders' age, race, and sex. In principle, it would seem that for personal crimes the offenders' sex would probably be the least difficult for victims to report on, the offenders' race the next most difficult, and the offenders' age group the most difficult for victims to report.[16] This research does not attempt to present fine age distinctions regarding offenders. The NCS survey instrument uses the following age categories: under 12, 12 to 14, 15 to 17, 18 to 20, 21 or older, and "don't know." Our analysis uses only three broad offender age groups -- juvenile offenders (12 to 17), youthful offenders (18 to 20), and adult offenders (21 or older) -- in order to minimize misclassification of offenders' age group.

In addition, there are three interrelated limitations regarding the use of NCS data in connection with studying offender characteristics. First, because the source of the data is the victim's report, only a small number of visible offender characteristics are available -- sex, race, age group, number of offenders, and relationship (if any) to the victim. Second, because these data depend on reports of victims, the data analyzed include only offenses in which the victim sees the offender; generally, this means rape, robbery, assault, and personal larceny. Third, questions related to incidence versus prevalence cannot be resolved with these data; for example, whether the over-abundance of males among offenders is due to a small proportion of males repeatedly offending or due to a large proportion of males offending a small number of times cannot be resolved with these data. Even within these limitations, however, the NCS data hold potential that is not found in self-report or police arrest data (Hindelang and McDermott, 1981).

Similarly, there are problems as to what exactly the economic indicators described above actually measure. For example, a general criticism of unemployment rates is that they are not, for all purposes, appropriate measures of labor market conditions (Bregger, 1971; Shiskin, 1976). It has been argued that unemployment rates underestimate the actual jobless rate. The basis of this argument is the existence of "hidden unemployed": persons who would like to work but have given up looking for a job. These people are therefore excluded from the labor force. Adult women and teenagers, particularly black teenagers, make up the majority of this category.

The National Commission on Employment and Unemployment Statistics has argued that many of the "discouraged" workers have some attachment to the labor force, but because it is not as great as those actively seeking work, these persons are not counted in the unemployment rates (1979:44-45).

In addition to these measurements problems, the age-race-sex specific victimization data are not strictly comparable with the age-race-sex specific unemployment rates. As mentioned above, juvenile offenders are defined as those perceived to be 12 to 17 years of age. This group is created by combining those offenders perceived to be 12 to 14 with those offenders perceived to be 15 to 17 (see Offender Age in the NCS, Appendix C). Offenders under 12 are eliminated from the study because persons under 12 are not eligible for an interview in the NCS survey and there are no unemployment data available for these persons. Similarly, there are no unemployment data available for persons 12 and 13 years of age. However, 12 and 13 year old offenders are included in the crime rate data because in order to eliminate them would also mean to exclude offenders who are 14 years old (see NCS interview schedule, Appendix B). This group of 14 year old offenders represent an important segment of the juvenile offending population (see Wolfgang, Figlio and Sellin, 1972:109-118). The comparable unemployment age categories are: 14 to 17, 18 to 20, and 21 or older.

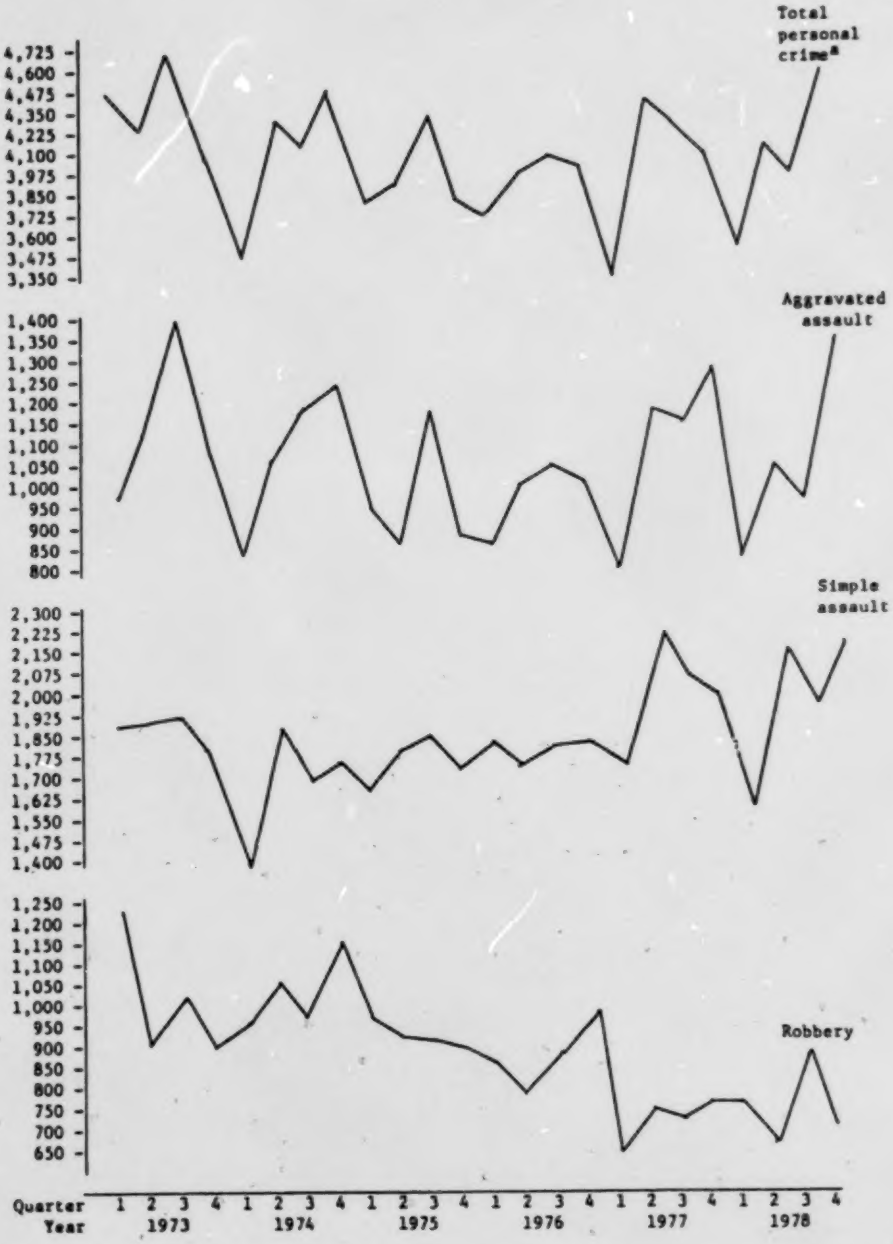
A second problem in comparability concerns the race categories used in the NCS data and the unemployment statistics. Respondents interviewed in the NCS were classified into three racial categories - white, black, and other.[17] Because so few of the respondents are classified as "other" (mainly Orientals and American Indians), these data are excluded from the analysis. Therefore, the victimization data in this report are classified into white and black racial groups, whereas the unemployment figures are dichotomized into white and nonwhite, in order to take advantage of the finer age categories collected, but not published, for the Bureau of Labor Statistics.

How can this lack of precise fit between the indicators be expected to affect the analysis? Pearson's product moment correlations were computed on four age and sex groups for both black and nonwhite categories in order to test the correlation between black unemployment rates and nonwhite unemployment rates. The following correlation coefficients were obtained: a) males 16 to 19 years of age (.88), b) females 16 to 19 years of age (.96), c) males 20 years of age or older (1.0), and d) females 20 years of age or older (1.0). Based on these findings, it would appear that for our purposes the nonwhite unemployment rates will be an acceptable proxy for the black unemployment rates. That is, the advantages of using the finer age groups provided for nonwhites appear to outweigh the disadvantages of using the available black unemployment data with non-comparable age categories.

III. Total Rates of Offending and National Economic Indicators

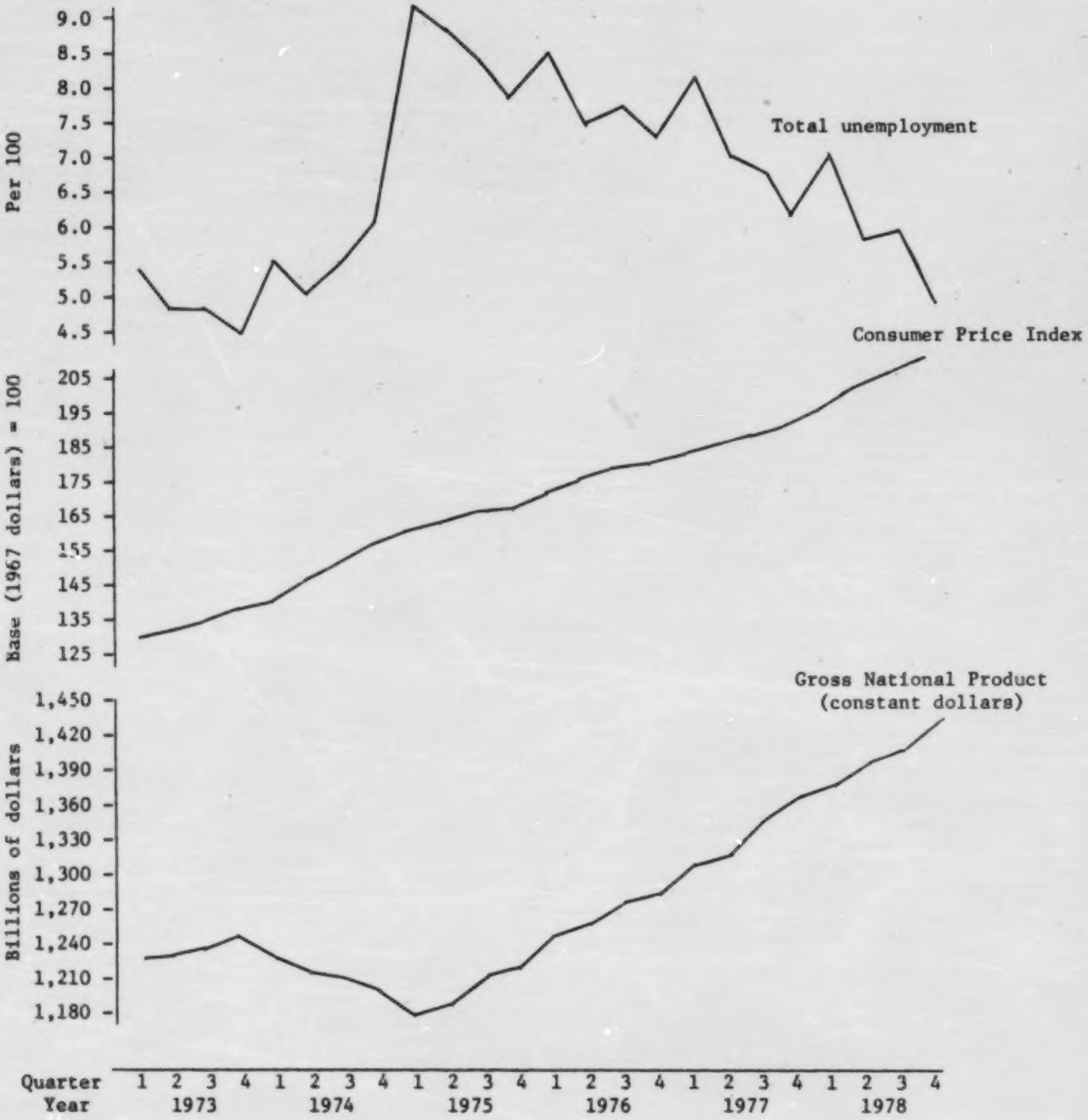
Figures 1 and 2 present graphical displays of trends in NCS rates of offending and national economic indicators as measured in quarterly rates, for the years 1973 through 1978. The rates of offending presented in Figure 1 are for persons who are 12 years of age or older[18] for total crimes (rape, robbery, aggravated assault, simple assault, and personal larceny) and selected crime types. Examination of Figure 1 indicates that rates of offending for total crime, aggravated assault and robbery slightly decline for the years 1973 to 1976, and then begin to show an

Figure 1 Estimated quarterly rates of offending (per 100,000 potential offenders in the population), by type of crime, NCS national data, 1973-1978



[a] Includes the crimes of rape, robbery, aggravated and simple assault, and personal larceny.

Figure 2 Quarterly data for the total unemployment rate for the population 16 and older, the Consumer Price Index, and the Gross National Product, national data 1973-1978



increase for the years 1977 to 1978. Simple assault, on the other hand, remains relatively stable from 1973 to 1976 and then also begins to increase during the last two years under examination, 1977 and 1978.

Figure 2 illustrates trends in the major economic indicators over the same time period. The Consumer Price Index, and for the most part, the Gross National Product steadily increase over the six year period under study. The decline in Gross National Product during 1974 is indicative of the recession felt in this country during that time period. The graph of unemployment provides further illustration of the recession taking place at this time, with the largest jump in unemployment occurring between the 4th quarter of 1974 and the 1st quarter of 1975. After 1974, the unemployment rates has been steadily declining.

Zero-order Pearson product moment correlation coefficients (Pearson's r) were computed to investigate the relationship between these economic indicators and the NCS rates of offending. These coefficients are presented in Table 1. When unemployment is correlated with all types of crime under investigation (total, aggravated assault, simple assault and robbery), a negative relationship is found. That is, an increase in one of the series is accompanied by a decrease in the other series. This inverse relationship is statistically significant ($p < .10$) for the total crime rate of offending and the aggravated assault rate of offending.

Although a significance level of .10 may seem high (and hence increases the chance of rejecting the null hypothesis), it will be used throughout this report to determine statistical significance. This study is an exploratory analysis examining for the first time the relationship between _quarterly_ economic indices and _quarterly_ NCS rates of offending, and therefore it is better to err on the side of identifying for future research more rather

Table 1 Zero-order correlation coefficients between quarterly NCS rates of offending (per 100,000 potential offenders in the population) and economic indicators, by type of crime, national data 1973-1978

	Economic Indicators		
Type of crime	Total unemployment	Consumer Price Index	Gross National Product (constant dollars)
Total personal	-.52*[b]	-.16	.02
crime[a]	-.50*[c]	.60*	.38*
Aggravated	-.48*	.03	.18
assault	-.56*	.64*	.37*
Simple	-.28	.42*	.59*
assault	-.49*	.48*	.33
Robbery	-.31	-.77*	-.67*
	.14	.11	.00

[a] Includes the crimes of rape, robbery, aggravated and simple assault, and personal larceny.

[b] Zero-order correlation coefficients on raw data.

[c] Zero-order correlation coefficients on logarithmic transformed data (base 10).

*Significant at the .10 level.

than fewer relationships. Also, given the contradictory findings in previous research (see Appendix A) as to the expected direction of the relationship between crime and economic indices, a two-tailed test of significance will be used in this report.

Looking now at the economic indices of CPI and GNP, the data show comparable results for these two indices when they are correlated with the four rate of offending categories. Both the CPI and GNP are positively correlated with both assault crimes and negatively correlated with the robbery rate of offending. The coefficients for simple assault and robbery are statistically significant ($p < .10$), with robbery showing the highest correlations.

Interpretation of the zero-order correlations (derived from the raw data) presented in Table 1 must be undertaken with caution. Visual scrutiny of Figures 1 and 2 indicates that the series, for the most part, have yearly trends. That is, the series show a tendency either to decline or increase over each year 1973 through 1978. Also, there appears to be differing variability among quarters for the years under study, particularly observable in the rate of offending series. For instance, the rate of offending for simple assault ranges from 1,732 to 1,796 in 1976 and from 1,724 to 2,180 in 1977. The fact that the series possess a trend component, as well as differing quarterly variance within each year, may partially account for the strong relationships observed in the correlation coefficients presented in Table 1.

One possible explanation for the yearly trends found in the rate of offending series is inherent in the NCS methodology. There is reason to believe that as the length of time respondents are in the sample increases, the rates of victimization, calculated from interviews within that sample, decrease.[19] That is, respondents are less likely to report victimizations the longer they remain in the sample. The sampling and rotation structure of the NCS from 1973 to 1978 was such that the mean length of time respondents were in the sample changed every 6 months. For example, respondents interviewed during the first 6 months of 1976 had been in the sample an average length of time that is more than double the average length of time respondents interviewed during the first 6 months of 1973 had been in the sample. Given that rates of victimization for a specific panel tend to decline each time that panel is interviewed, and given that the average length of time respondents have been in the NCS sample varies from month to month, there is reason to believe that the absolute level of the rate of offending series may be biased.

Fleischer (1963, 1966) argues that a major shortcoming of previous research examining the relationship between unemployment and crime is the failure to include a trend variable in the estimation equation. A trend variable takes into account the possibility that the series in question may be increasing or decreasing as a function of time (Figure 2 illustrates that the CPI steadily increases over time). Fleischer (1963, 1966) accounted for the trend component in his series by including a time variable among his predictors. Failure to take into account a trend variable when analyzing series measured over time may result in the estimation of a spurious relationship (Gillespie, 1975, Rao and Miller, 1971). That is, an observed relationship may be the product of the series naturally progressing over time, because of factors such as population growth, and not the effect of one series on the other.

A trend component is present in the majority of series under investigation in this report. In addition, the NCS rate of offending series contain absolute levels of offending that may be biased due to the respondents length of time in the sample. Therefore, the problem is twofold. Inclusion of a time variable in the estimation equation would not adequately address the problems inherent in the NCS data. For this reason the data were transformed to remove the yearly trend and to reduce the absolute level of variability across quarters.

First, the quarterly data points for all economic and crime series were expressed in logarithmic form (base 10). Yearly means were then calculated, using the logarithmic data, for each of the years 1973 to 1978. Quarterly deviations from the mean were then computed for each of the years. Removal of the yearly mean in this manner eliminates the yearly trend from the series. That is, inter-year variation has been extracted and the yearly series is now stationary. For example, a year with a high crime rate may yield quarterly deviations equal to those of a year with a low crime rate, if the variability among quarters were equivalent for both years. Thus, the absolute level of offending, which may have been biased, has been removed.

Changes in absolute levels across years for all variables were eliminated, with the resulting data representing relative quarterly deviations from the yearly mean as opposed to absolute quarterly deviations. With the absolute deviations, a year exhibiting a greater amount of variance among quarters would yield large quarterly deviations, whereas a year with slight quarterly variance would yield small quarterly deviations. However, use of logarithmic deviations will reduce such variability. Quarterly deviations derived from logarithmic data can be viewed as percentage changes from the mean, whereas quarterly deviations derived from the original data are dependent upon the absolute level of offending, as well as the quarterly variability. Take the following case as a hypothetical example. Suppose the average offending rate for year A is 15 and the comparable average for year B is 150. The absolute rate of offending in the first quarter of year A is 5 (one third the yearly average), whereas the first quarter rate of offending for year B is 50 (one third the yearly average). Taking absolute quarterly deviations from the yearly mean for years A and B yields values of -10 and -100 respectively. Note that the absolute deviation from year B is much larger than that from year A, even though the first quarter rates of offending were both one third the size of their respective yearly averages. Transforming the data to logarithmic form, and then taking quarterly deviations from the yearly mean yields -.39 for both years. For this example, analyzing the quarterly deviations of logarithmic rates shows similarities in the patterns of offending, if the patterns are based upon ratios. In effect, we argue that even though the absolute levels of the rate of offending series may be biased, relative quarterly changes from the yearly averages may be unaffected. Transformation of the data, as described above, should yield, by sharply reducing the possibility of estimating a spurious relationship, a more accurate picture as to the relationship between concomitant fluctuations in economic indices and rates of offending.

In addition to presenting zero-order correlations for the raw data set, Table 1 also presents correlation coefficients for the logarithmic data (quarterly deviations from the respective yearly means). The coefficients derived from the logarithmic data yield consistent results for each crime type within the economic indices. Unemployment is negatively correlated with the total rate of offending, as well as both assault rates of offending. Robbery, however, is positively correlated with unemployment, but the correlation is of an insignificant magnitude. Both the CPI and the GNP indicators are positively correlated with each of the crime types, with CPI exhibiting correlations of a greater magnitude for each crime category.

Comparing the correlation coefficients computed with the raw data and the transformed data, it is evident that removing the yearly differences in the data did alter the relationships found between the economic indices and the rates of offending. Most notable are the changes in the correlations found for robbery. The high negative correlations found between the robbery rate of offending and the GNP and CPI disappear when the yearly trends are removed from the series. This suggests that the original relationship, derived from the raw data, could be a product of the trend in each series.

In addition to containing a trend component, there is also reason to believe that both the rate of offending and the unemployment series contain seasonal patterns. This is particularly true for unemployment rates (which are used as the exclusive economic indicator in the following two sections of this report). To control for the seasonal component present in each of the series, dummy variables were introduced to represent the four quarters (see e.g., Johnston, 1972; Rao and Miller, 1971).[20] Use of these dummy variables as controlling variables in the multiple regression equation removes the seasonal component from both the dependent and independent variable (Rao and Miller, 1971:105). As a result, we can examine the relationship between the economic indices and the rates of offending with the regular recurring seasonal pattern controlled in each series. For example, it may be that unemployment is always highest in the first quarter of each year. Given this assumption, we would want to examine fluctuations in the unemployment series controlling for the spike that occurs every first quarter. Failure to account for seasonal patterns in the series may result in the estimation of a spurious relationship (Rao and Miller, 1971). As was the case with trend, an observed relationship may be the result of seasonal regularity in two series and not the effect of one series on the other.

A multiple regression analysis was used to examine the relationship between each economic index and the rates of offending after controlling for the effects of seasonality. The first step in the analysis was to regress the rate of offending in question on the seasonal variables. Next, the same rate of offending was regressed on the seasonal variables and one of the economic indices. Comparison of the variance explained (R^2) yielded by each of these regressions shows the residual effect of the economic index on the rate of offending, once seasonal regularity has been controlled.

Tables 2 through 5 present the results from this multiple regression procedure between each rate of offending and each economic index. Looking first at the total rate of offending (Table 2), we find that when the crime rate is regressed on seasonality and each economic index in turn, a significant ($p < .10$) proportion of the variance in the total rate of offending is explained. The proportion of variance explained in the total rate of offending varies very slightly depending on which economic index was used, ranging from a low of 51% (unemployment and

Table 2 Multiple regression results of NCS quarterly rates of total offending in personal crimes[a] (per 100,000 potential offenders in the population) regressed on each economic indicator and seasonal dummy variables, national data 1973-1978[b]

Proportion of variance explained (R^2)			
R^2 of total personal offending regressed on seasonal dummies	R^2 of total personal offending regressed on economic indicator and seasonal dummies		R^2 change
.51*	Consumer Price Index	.56*	.05
	Gross National Product (constant dollars)	.51*	.00
	Total unemployment	.51*	.00

[a] Includes the crimes of rape, robbery, aggravated and simple assault, and personal larceny.

[b] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

seasonality) to a high of 56% (CPI and seasonality). However, Table 2 also shows that seasonality alone accounts for 51 percent of the explained variance in the total crime rate. Looking at the R^2 change for each of the separate economic indices, it is evident that the addition of that particular variable to the regression equation adds little, if any, in the way of explanatory power. That is, the residual effect of each economic variable (unemployment, CPI, GNP) on the crime rate is negligible. This suggests that once quarterly fluctuations in the total rate of offending and the economic indices in question are controlled, the economic index is unrelated to the total rate of offending.

Examination of Tables 3, 4, and 5 indicates that this same pattern holds true for the aggravated assault rate of offending, the simple assault rate of offending, and the robbery rate of offending. None of the economic indices has any effect on these rates of offending once seasonality is controlled; that is, the CPI, GNP, and total unemployment rate are found to be independent of the crime specific rates of offending.

In addition to examining the relationship between economic indices and crime specific rates of offending in the same quarter, lagged relationships were also examined. This was done to test for the possible delayed effect of economic conditions on rates of offending. Time lag periods from one to six quarters were examined. Generally speaking, none of the lag periods produced results substantially different from those found when the variables were from the same quarter. For this reason, examination of lagged relationships in subsequent sections of this report will not be pursued.

Table 3 Multiple regression results of NCS quarterly rates of aggravated assault offending (per 100,000 potential offenders in the population) regressed on each economic indicator and seasonal dummy variables, national data 1973-1978[a]

Proportion of variance explained (R^2)			
R^2 of aggravated assault regressed on seasonal dummies	R^2 of aggravated assault regressed on economic indicator and seasonal dummies		R^2 change
	Consumer Price Index	.58*	.03
.55*	Gross National Product (constant dollars)	.57*	.02
	Total unemployment	.57*	.02

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

Table 4 Multiple regression results of NCS quarterly rates of simple assault offending (per 100,000 potential offenders in the population) regressed on each economic indicator and seasonal dummy variables, national data 1973-1978[a]

Proportion of variance explained (R^2)			
R^2 of simple assault regressed on seasonal dummies	R^2 of simple assault regressed on economic indicator and seasonal dummies		R^2 change
	Consumer Price Index	.53*	.06
.47*	Gross National Product (constant dollars)	.47*	.00
	Total unemployment	.48*	.01

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

Table 5 Multiple regression results of NCS quarterly rates of robbery offending (per 100,000 potential offenders in the population) regressed on each economic indicator and seasonal dummy variables, national data 1973-1978[a]

Proportion of variance explained (R^2)			
R^2 of robbery regressed on seasonal dummies	R^2 of robbery regressed on economic indicator and seasonal dummies		R^2 change
.11	Consumer Price Index	.12	.01
	Gross National Product (constant dollars)	.13	.02
	Total unemployment	.15	.04

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

When studying the relationship between variables measured over time, one must be aware of statistical problems which may distort the findings. One such problem is the possible autocorrelation of the error terms produced by the multiple regression equation. The traditional method of testing for autocorrelation in the disturbance terms is the Durbin-Watson statistic. Because the R^2 changes in this section of the report were not statistically significant, it was not necessary to test for autocorrelation

IV. Unemployment and Crime--An Age, Race, Sex Specific Analysis

Up to this point we have examined rates of offending and economic indices without regard to demographic characteristics. This section of the report examines the relationship between quarterly rates of offending for age-race-sex specific populations and their age-race-sex specific unemployment rates. As in the preceding section, the rates of offending include a total rate of offending in personal crimes as well as rates of offending for the crime specific categories of aggravated assault, simple assault, and robbery.

It has been suggested (Glaser and Rice, 1959; Guttentag, 1968; Gillespie, 1975) that when relating economic conditions and crime, one must differentiate the variables in question by age. That is, correlate juvenile unemployment rates with juvenile rates of offending and adult unemployment rates with adult rates of offending. Glaser and Rice (1959) found that an increase in juvenile unemployment was accompanied by a decrease in juvenile crime. Other research (Phillips, Votey and Maxwell, 1972) has shown that increasing juvenile unemployment leads to increases in the number of crimes committed by that age group. As is evident from the literature (see Appendix A), there is controversy as to just how employment conditions affect juvenile crime. For adults, however, the research results are more consistent, particularly after 1955. Studies focusing on adults seem to suggest there is indeed a direct relationship between unemployment and crime (Gillespie, 1975), although the question of the magnitude of the relationship is still largely unsettled. The data presented in this section of the report will attempt to shed light on some of these unresolved issues.

The rates of offending--total, aggravated assault, simple assault, robbery--will be those for male offenders only. Analyzing female rates of offending, as measured by victimization surveys, is extremely difficult with quarterly data. The small number of female offenders reported in the survey each quarter yield rates of offending with large standard errors. For this reason, our analysis will focus on juvenile, youthful, and adult male offenders. These three groups will be examined for both blacks and whites.

As in the previous section, the first step in analyzing the relationship between unemployment rates and crime rates is to inspect the data visually. The data show that for the years in question, 1973 through 1978, white offending rates increase slightly or remain stable over time, whereas black offending rates decrease (data not presented in graphic form). In addition, seasonal patterns are present in many of the series, especially the age-race-sex specific unemployment rates. For these reasons, a data transformation analogous to that in the previous section was performed on these data. That is, the quarterly data points for each of the series in question were transformed into logarithmic form (base 10), yearly means were calculated with the logarithmic data, and quarterly deviations from the mean were computed for each of the years 1973 to 1978. Presentation of the zero-order correlation coefficients for the raw data and the logarithmic data will not be necessary here. Table 1 was presented for the sole purpose of allowing the reader to follow the steps undertaken during data transformation. Because interpretation of these zero-order correlation coefficients can be misleading, and because our purpose is to examine the relationship between crime and unemployment after yearly trends and seasonality have been removed from each series, comparable tables are not presented in Sections IV and V of this report. In each of these sections, a multiple regression procedure, introducing dummy seasonal variables (similar to those used in Section III), is used.

Looking first at the total rate of offending in Table 6, we find that white rates of offending have a larger proportion of their variance explained by seasonality and unemployment than do blacks. But what is the effect of unemployment on rates of offending once the seasonal component has been removed from each series? The data in Table 6 show that the R^2 change values from the regression of total crime on seasonality and the regression of crime on seasonality and unemployment are small. For these age-race-sex specific rates of total offending, there are no significant changes in R^2. This suggests that once seasonality in offending and unemployment rates are controlled for, unemployment is unrelated to the total rate of offending for the subgroups in question (juvenile, youthful, and adult male offenders for both blacks and whites).

The data in Tables 7 and 8 show the results of a similar multiple regression analysis between age-race-sex specific assault rates of offending (both simple and aggravated assault separately) and their corresponding age-race-sex specific unemployment rates. Once again, after removal

Table 6 Multiple regression results of NCS quarterly rates of total offending in personal crimes[a] for males (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of male unemployment and seasonal dummy variables, by race and age of offender, national data 1973-1978[b]

	Proportion of variance explained (R^2)		
Race and age of offender	R^2 of total personal offending regressed on seasonal dummies	R^2 of total personal offending regressed on unemployment and seasonal dummies	R^2 change
White males:			
12 to 17	.31*	.32*	.01
18 to 20	.48*	.48*	.00
21 or older	.80*	.80*	.00
Black Males:			
12 to 17	.05	.06	.01
18 to 20	.44*	.47*	.03
21 or older	.24	.27	.03

[a] Includes the crimes of rape, robbery, aggravated and simple assault, and personal larceny.

[b] The data were transformed to logarithmic (base 10) form before regression analysis.

[*] Significant at the .10 level.

Table 7 Multiple regression results of NCS quarterly rates of aggravated assault offending for males (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of male unemployment and seasonal dummy variables, by race and age of offender, national data 1973-1978[a]

Race and age of offender	Proportion of variance explained (R^2)		
	R^2 of aggravated assault regressed on seasonal dummies	R^2 of aggravated assault regressed on unemployment and seasonal dummies	R^2 change
White males:			
12 to 17	.09	.11	.02
18 to 20	.59*	.59*	.00
21 or older	.48*	.51*	.03
Black males:			
12 to 17	.01	.14	.13
18 to 20	.52*	.52*	.00
21 or older	.14	.15	.01

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

Table 8 Multiple regression results of quarterly rates of simple assault offending for males (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of male unemployment and seasonal dummy variables, by race and age of offender, national data 1973-1978[a]

Race and age of offender	Proportion of variance explained (R^2) R^2 of simple assault regressed on seasonal dummies	 R^2 of simple assault regressed on unemployment and seasonal dummies	 R^2 change
White males:			
12 to 17	.30*	.37*	.07
18 to 20	.27*	.28	.01
21 or older	.73*	.73*	.00
Black males:			
12 to 17	.15	.17	.02
18 to 20	.33*	.34*	.01
21 or older	.37*	.37*	.00

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

Table 9 Multiple regression results of NCS quarterly rates of robbery offending for males (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of male unemployment and seasonal dummy variables, by race and age of offender, national data 1973-1978[a]

	Proportion of variance explained (R^2)		
Race and age of offender	R^2 of robbery regressed on seasonal dummies	R^2 of robbery regressed on unemployment and seasonal dummies	R^2 change
White males:			
12 to 17	.24	.35*	.11*
18 to 20	.06	.11	.05
21 or older	.23	.37*	.14*
Black males:			
12 to 17	.11	.12	.01
18 to 20	.12	.15	.03
21 or older	.63*	.64*	.01

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

of the seasonal component from unemployment rates and rates of offending, the residual effect of unemployment rates on rates of offending for simple and aggravated assault is insignificant for all male age and race subgroups. Even though many of the multiple R^2 values for the regression of offending rates (both simple and aggravated assault) on seasonality and unemployment simultaneously yield high results, and indeed significant F - ratios (not presented in tabular form), our analysis indicates that these high multiple R^2 values are due almost exclusively to seasonality, and not unemployment.

Table 9, examining the personal crime of robbery, suggests that robbery has a weak relationship with unemployment, although the results are inconsistent across offender age groups. For juvenile white males, age 12 to 17, and adult white males, age 21 or older, unemployment rates explain a significant ($p < .10$) proportion of the variation in the robbery rate of offending, after seasonal effects are removed.[21] The resultant regression coefficients indicate that the relationship between unemployment and robbery is positive for juvenile white males and negative for adult white males. For black males of all ages, and white males age 18 to 20, our analysis suggests that unemployment is unrelated to the robbery rate of offending.

In summary, the data show that for the total rate of offending in personal crimes and the crime specific rates of aggravated and simple assault, knowledge of the unemployment rate for a specific male, age and race subgroup does not aid in explaining the corresponding male, age and race subgroup rate of offending. Only for the robbery rate of offending, and only then for white males 12 to 17 and white males 21 or older, does the specific subgroup unemployment rate play a significant role in predicting the crime rate. It is interesting to note that the relationship found between crime and unemployment for adult white males is in the opposite direction as would have been expected from a reading of the literature (Gillespie, 1975). The negative relationship found for juvenile white males is supportive of some previous work (Glaser and Rice, 1959) and in opposition to other studies (Fleischer, 1963; Phillips, Votey, Maxwell, 1972). Once again, a cautionary note is necessary when interpreting these NCS findings. The laws of probability again point to the possibility that these significant relationships could be due to chance. It is possible that for each male, age and race subgroup under investigation, the rate of unemployment is not related to the rate of offending for the crimes of aggravated assault, simple assault and robbery, as well as the total rate of offending index.

V. Adult Unemployment and Juvenile Crime

In addition to examining the correlation between age, race, and sex specific unemployment rates and corresponding age, race, and sex specific rates of criminal offending, the relationship between adult unemployment and juvenile offending can also be assessed with these data. Although research has been done on the relationship between total unemployment and juvenile crime, this study specifically examines the relationship between adult unemployment and juvenile crime. From a reading of the available literature, there is reason to believe that adult unemployment and juvenile crime may be negatively related (see e.g., Carr, 1950, and Glaser and Rice, 1959).

Unfortunately, few explanations have been offered for this conjecture and those that have been presented are tentative. For example, it has been suggested that when adults are unemployed, they are more likely to spend time at home. As a result, it is argued that there is an increase in the amount of time the adult spends with his children. Thus, the previously working parent has more of a direct role in supervising the behavior of family members. In other words, the adult controls are more direct and hence, more salient to children within the family structure than when that parent was employed and away from home for a large portion of time (Lunden, 1938). The overall result of this condition of adult unemployment then is a decrease in juvenile crime.[22]

As in the previous section, a multiple regression analysis was performed on the transformed data with the seasonal dummy variables and adult unemployment rates entered simultaneously into an equation as predictors of juvenile and youthful crime. The key question asked is -- what is the effect of adult unemployment on the rates of juvenile and youthful offending after the seasonal component has been removed from both series? The data in Table 10 present the R^2 changes from the regression of the rates of offending on seasonality alone and the regression of the rates of offending on adult unemployment and seasonality for the total crimes of rape, robbery, aggravated assault, simple assault, and personal larceny with contact.

Overall, the R^2 changes in this table are relatively small. Adding the male adult unemployment rate, for both whites and blacks, to the equation does not increase the variation in the total rate of offending accounted for by seasonality alone. However, the addition of the female

Table 10 Multiple regression results of NCS quarterly rates of total offending in personal crimes[a] (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of adult (21 or older) unemployment (by race and sex) and seasonal dummy variables, by race and age of male offenders, national data 1973-1978[b]

	Proportion of variance explained (R^2)								
	R^2 of total personal offending regressed on seasonal dummies	R^2 of total personal offending regressed on adult unemployment and seasonal dummies				R^2 change			
Race and age of offender		White males	Black males	White females	Black females	White males	Black males	White females	Black females
White males:									
12 to 17	.31*	.32		.38*		.01		.07	
18 to 20	.48*	.49*		.50*		.01		.02	
Black males:									
12 to 17	.05		.05		.21		.00		.16*
18 to 20	.44*		.45*		.45*		.01		.01

[a] Includes the crimes of rape, robbery, aggravated and simple assault, and personal larceny.

[b] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

adult unemployment rate to the equation does show an effect for certain groups. For white males 12 to 17, the addition of the white female adult unemployment rate increases the proportion of variation accounted for by seasonality alone (31%) by 7 percent. However, the R^2 change was not statistically significant in this case. Similarly, the addition of the black female unemployment rate to the equation explaining variation in the total rate of offending by black males 12 to 17 increased the proportion of variance accounted for by seasonality alone (5%) by 16 percent. This R^2 increase is statistically significant at the .10 level.

Do these results remain once type of crime is taken into account? The data in Table 11 display the R^2 changes from the regression of the rates of robbery offending on seasonality alone and the regression of the rates of robbery offending on adult unemployment and seasonality. For both groups 12 to 17 years of age, increases in the proportion of explained variation in the robbery rate of offending, beyond that accounted for by seasonality, are revealed. For white males 12 to 17, the addition of the white male adult unemployment rate to the equation increased the proportion of variation explained by 12 percent. This R^2 change is statistically significant at the .10 level. Addition of the white female adult unemployment rate produced a statistically insignificant R^2 change. For black males 12 to 17, addition of the black female adult unemployment rate to the equation increased the variation explained by 13 percent. This R^2 change is also statistically significant at the .10 level. When the black male adult unemployment rate was added, the R^2 change was not statistically significant. No significant R^2 changes are found for youthful offenders of both races. Thus, for this group of 18 to 20 year olds,

Table 11 Multiple regression results of NCS quarterly rates of robbery offending (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of adult (21 or older) unemployment (by race and sex) and seasonal dummy variables, by race and age of male offenders, national data 1973-1978[a]

	Proportion of variance explained (R^2)								
		R^2 of robbery regressed on adult unemployment and seasonal dummies				R^2 change			
Race and age of offender	R^2 of robbery regressed on seasonal dummies	White males	Black males	White females	Black females	White males	Black males	White females	Black females
White males:									
12 to 17	.24	.36*		.30		.12*		.06	
18 to 20	.06	.06		.06		.00		.00	
Black males:									
12 to 17	.11		.18		.24		.07		.13*
18 to 20	.12		.12		.12		.00		.00

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

the addition of adult unemployment as an explanatory variable of the robbery rate of offending is not helpful (i.e., the increase in R^2 is small and insignificant).

The data were analyzed in a similar fashion for the crimes of aggravated and simple assault (see Tables 12 and 13). Only one statistically significant R^2 change (at the .10 level) was found adding the appropriate adult unemployment rate to the equation. This lone exception was the case in which the white female adult unemployment rate was added to the equation to explain changes in the rate of aggravated assault offending by white males 18 to 20. The increase in the proportion of variance accounted for was 7 percent in this case. However, for the most part, knowledge of the adult unemployment rate does not account for changes in the rates of juvenile and youthful offending for the crimes of aggravated and simple assault. That is, seasonality accounted for most, if not all, of the variation explained by the equation.

In summary, these data show limited support for the notion that adult unemployment is related to the rates of juvenile and youthful offending. R^2 changes were examined for 32 specific cases and of these only four were shown to be statistically significant. These significant cases are as follows: 1) Changes in the adult unemployment rate for white males were related to changes in the robbery rate of offending by white males 12 to 17. The regression coefficient revealed that increases in white male adult unemployment were associated with increases in robbery by white males 12 to 17. 2) Changes in the adult unemployment rate for white females were related to changes in the rate of aggravated assault by white males 18 to 20. This regression coefficient suggested that

Table 12 Multiple regression results of NCS quarterly rates of aggravated assault offending (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of adult (21 or older) unemployment (by race and sex) and seasonal dummy variables, by race and age of male offenders, national data 1973-1978[a]

	Proportion of variance explained (R^2)								
	R^2 of aggravated assault regressed on seasonal dummies	R^2 of aggravated assault regressed on adult unemployment and seasonal dummies				R^2 change			
Race and age of offender		White males	Black males	White females	Black females	White males	Black males	White females	Black females
White males:									
12 to 17	.09	.09		.10		.00		.01	
18 to 20	.59*	.59*		.66*		.00		.07*	
Black males:									
12 to 17	.01		.05		.02		.04		.01
18 to 20	.52*		.54*		.52*		.02		.00

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

Table 13 Multiple regression results of NCS quarterly rates of simple assault offending (per 100,000 potential offenders in each population subgroup) regressed on quarterly rates of adult (21 or older) unemployment (by race and sex) and seasonal dummy variables, by race and age of male offenders, national data 1973-1978[a]

	Proportion of variance explained (R^2)								
		R^2 of simple assault regressed on adult unemployment and seasonal dummies				R^2 change			
Race and age of offender	R^2 of simple assault regressed on seasonal dummies	White males	Black males	White females	Black females	White males	Black males	White females	Black females
White males:									
12 to 17	.30*	.32		.31		.02		.01	
18 to 20	.27*	.27		.27		.00		.00	
Black males:									
12 to 17	.15		.23		.24		.08		.09
18 to 20	.33*		.34*		.39*		.01		.06

[a] The data were transformed to logarithmic (base 10) form before regression analysis.

*Significant at the .10 level.

as adult unemployment increased for that particular subgroup of the population, the rate of aggravated assault for white males 18 to 20 decreased. 3) Changes in the rate of adult unemployment for black females were related to changes in the rate of total offending for black males 12 to 17 in a positive direction. 4) Changes in the rate of adult unemployment for black females were positively related to changes in the rate of robbery offending for those 12 to 17. Given that there does not appear to be any pattern in the cases of juvenile and youthful rates of offending that are significantly related to changes in adult unemployment patterns, and given that three significant regressions would be expected by chance alone ($p < .10$), these results do not provide strong support for those arguing in favor of a stable link between adult unemployment and juvenile offending.

VI. Concluding Remarks

It has long been assumed that the cyclical nature of the economic market -- prosperity, recession, prosperity -- produces concomitant changes in the rate of criminal behavior. The past decade in particular has been characterized by a growing public concern with the effects of unemployment on crime, especially for juveniles. Given these concerns there is a strong need to examine the relationship between economic conditions and criminal behavior.

Research on this topic, while extensive, has produced disparate results (see annotated bibliography, Appendix A, for more information). What has been especially problematic is the nature of the relationship. The National Crime Survey data provide a unique vantage point from which to study the effects of economic conditions on criminal behavior. For example, NCS data are available for crimes not reported to police as well as crimes that are. Moreover, with these data it is possible to produce quarterly estimates of age-race-sex specific rates of offending. This is important in that these rates can be correlated with age-race-sex specific unemployment rates to discover how unemployment is related to offending for certain subgroups of the population.

Overall, this report focused on three major issues. First, relationships between quarterly fluctuations in the major economic indicators (Total unemployment, Consumer Price Index, Gross National Product) and rates of offending in personal crimes were examined. Second, relationships between quarterly movements in age, race, and sex specific unemployment rates and comparable age, race, and sex specific rates of offending were analyzed. Third, we focused on the issue of adult unemployment and juvenile crime. Specifically, sex and race specific adult unemployment rates and comparable sex and race offending rates for juvenile and youthful offenders were correlated. Generally, for these relationships, few significant results were found when various economic indices were correlated with rates of offending. Furthermore, the relationships found to be statistically significant can most likely be explained by the laws of probability. For example, as the number of regression analyses increased, the number of significant relationships found increased as well. It is worth repeating at this point that the level of significance chosen (.10) makes it easier to reject the null hypothesis, than if the .05 or .01 level had been used. This is not to say that the relationships discussed here are meaningless; however, it is our view that these findings should be interpreted judiciously.

Another word of caution is necessary for proper interpretation of the findings presented in this report. The reader must be careful not to succumb to the "ecological fallacy." That is, when a significant relationship is found between unemployment and a specific rate of offending, there is no way to tell whether those persons committing offenses are also those persons unemployed. Unfortunately, the NCS contains no information on the employment status of offenders because only those offender characteristics visible to the victim during the commission of the offense are recorded; namely, age, race, and sex of offender, victim-offender relationship, and the number of offenders involved in the incident. Therefore, if a rise in the unemployment rate is accompanied by a rise in an NCS rate of offending there is no way of specifying whether the increase in the rate of offending is attributable to employed or unemployed persons. As a result, we are not able to make inferences at the level of individual persons in the time series analysis presented in this report.

In conclusion, this analysis suggests that relationships between economic indicators and NCS rates of offending can largely be accounted for by patterned variation in both crime and unemployment data over time. This held true for total crime as well as crime specific categories across all age, race, and sex specific subgroups in the population examined here. This finding, that changes in economic indicators were, for the most part, unrelated to changes in the NCS rates of offending, was surprising and contrary to a wide body of prior empirical studies (see Appendix A). Yet there is some support in the literature for these findings (see e.g., Land and Felson, 1976). Examining recent studies regarding this issue Orsagh concludes "unemployment may affect the crime rate; but even if it does, its general effect is too slight to be measured. Therefore, the proper inference is that the effect of unemployment on crime rates is minimal at best" (Orsagh, 1980:183). Our findings regarding unemployment and crime are consistent with Orsagh's conclusions.

This report should be viewed only as a first step in the process of adequately describing the relationship between economic conditions and criminal behavior. Numerous important questions regarding this topic remain unanswered. For instance, will the findings produced here remain consistent over a longer period of time? Furthermore, if more precise estimates of economic conditions were available would the same results appear? Regardless of the answers to these questions, the need is clear for additional research, using improved measures of key variables. Given the attention that the problems of unemployment and crime have received from the perspective of social policy, it is essential that research in this realm continue in order to provide directions and guidelines for such policy.

NOTES

[1] For additional information on some of the theory and research addressing the relationship between economic factors and criminality, the reader is referred to Appendix A. Appendix A is a short series of annotations and references on a sample of the literature in this area of inquiry.

[2] For additional information on the similarities and differences between official and self-report measures of the correlates of delinquency, see Michael J. Hindelang, Travis Hirschi, and Joseph G. Weis (1979).

[3] See Garofalo and Hindelang (1977) and U.S. Bureau of the Census (undated) for additional details about the design and data collection.

[4] This procedure does not completely ignore mobile families. Although no attempt is made to trace families that move away from an address in the sample, a similarly mobile family may move into that address and will be included in the survey.

[5] See Garofalo and Hindelang (1977) for more details.

[6] Actually, rather than simply cumulating the raw number of offenders in each subgroup, the incident weight -- the inverse of the probability that an incident will be sampled -- is cumulated for each sex-race-age subgroup. This is necessary because, owing to the complex design of the survey, not every incident has the same likelihood of appearing in the sample.

[7] Incidents in which the victim did not know whether there was one or more than one offender, or in which there was a group of offenders of "mixed" sexes (i.e., in which there were both males and females) or "mixed" races were excluded from analysis. These exclusions constituted about 11 percent of total personal incidents. It was necessary to exclude incidents in which the victim did not know whether there was one or more than one offender because in such cases the victim was not asked the sex, race, or age of the offender(s). It was necessary to exclude incidents involving multiple offenders of "mixed" sexes and races because victims were not asked how many offenders were from each sex or race group. When offenders were of "mixed" ages, the age group of the oldest was arbitrarily used in order to prevent the loss of additional cases; treating "mixed" age-group offenders as all in the youngest age group resulted in only minor variations from the results obtained when the oldest age-group rule was used.

[8] See Appendix D for population bases used in constructing the rates of offending reported in the figures and tables below.

[9] See BLS Handbook of Methods for Surveys and Studies, Bulletin 1910 (1976a), and Concepts and Methods used in Labor Force Statistics Derived from the Current Population Survey, BLS report 463 (1976b) for additional information concerning the Current Population Survey and preparation of these figures.

[10] Employment statistics for persons 14 and 15 years of age are also collected in the survey (see note 9 for additional information).

[11] Note that certain groups have been excluded from CPI coverage, such as professional, managerial and technical workers, the self-employed, short-term workers, the unemployed, and retirees and others not in the labor force. However, effective January 1978, the Bureau of Labor Statistics began publishing a new CPI for all urban consumers which is expected to cover approximately 80 percent of the total non-institutional civilian population. The CPI used here covers about half of that population.

[12] For a more detailed discussion of the CPI weighting procedure see BLS Handbook of Methods for Surveys and Studies, Bulletin 1910 (1976a).

[13] For more details on the Consumer Price Index see The Consumer Price Index: Concepts and Content Over the Years, Report 517 (1978), and BLS Handbook of Methods for Surveys and Studies, Bulletin 1910 (1976a).

[14] For a more detailed discussion of the components of the GNP see Readings in Concepts and Methods of National Income Statistics (1976)

[15] One problem in this study is the limited number of data points used in the analysis. A much larger data set is desirable for this type of time-series study; however, because the NCS has only collected national victimization information since 1972, the years 1973 through 1978 were the only full years available for analysis.

[16] See Appendix C for some data regarding this issue.

[17] In the 1973-78 period, according to Bureau of the Census and NCS counting rules, Spanish Americans were classified as whites. Recent changes give more centrality and specificity to ethnicity.

[18] Note that since so few of the respondents are classified as "other" (approximately 1 percent), these persons have been eliminated from the population bases used to calculate the rates of offending in Section III of this report. The numerator of the rates of offending in Section III contains offenders identified by the victim as either white or black.

[19] For further information regarding NCS panel bias see Woltman and Bushery (1977).

[20] For further information regarding the use of dummy variables in multiple regression analysis see Kerlinger and Pedhazur (1973).

[21] Examination of the Durbin-Watson statistics for the multiple regressions yielding significant relationships between rates of offending and economic indices (Sections IV and V) revealed that in only one of these multiple regressions, that between the white male adult unemployment rate and the white male adult robbery rate of offending, was significant ($p < .05$) autocorrelation present. Therefore autocorrelation was not considered to be a major problem in this research analysis.

[22] Of course the effect of adult unemployment may have the opposite result. If economic hardship is increased within the family due to the fact of unemployment, juveniles may be forced to find their own means to obtain necessities and luxuries that the family can no longer provide. Thus, under conditions of increasing adult unemployment juvenile crime may increase as well.

Appendix A

Annotations and References of Literature on the Relationship between Economic Conditions and Criminality

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Introduction

In conducting a review of the literature on the relationship between economic conditions and criminality one can easily be impressed by the sheer quantity of the literature. Literally hundreds of studies have been conducted, ranging from pre-depression analyses utilizing such economic indicators as pig iron production to modern econometric studies that employ the most sophisticated statistical models and techniques available. Since an exhaustive review of this literature is beyond the scope of this report, we have compiled a short series of brief annotations representing the major studies. It is our hope that from this appendix the reader will gain a better understanding of the major issues, methodologies, and findings associated with research on the relationship between economic conditions and crime. In addition to the annotations, supplementary references have also been provided. The following criteria were developed in deciding which studies were to be annotated.

The most general criterion was the congruence of the study's subject matter with the subject matter of this report -- unemployment and/or general economic conditions and crime. Thus a large number of works on income levels/distribution and crime have been excluded from this bibliography. In addition, since an important emphasis in the present report is the relationship between age-specific crime and age-specific unemployment rates, studies that have considered age an important variable in the relationship between economic conditions and crime are over-represented in this bibliography.

A second criterion employed was that the study be primarily an empirically-grounded research effort rather than a theoretical exposition or critique. If not an empirical research effort, the work had to have as its focus an appraisal of empirically-grounded research rather than a theoretical perspective. Thus, the works of well-known criminologists often associated with theories on the relationship between economic conditions and crime such as Bonger (1916), Merton (1957), and Cloward and Ohlin (1960) are not included in this bibliography.

Another criterion for inclusion was the general quality of the work. Because determination of quality is an inherently subjective matter, certain guidelines were followed. First, the frequent citation of a work by others was considered to be an indicator of quality. Second, the adequacy of the data base and methodology employed was examined. If inadequate to the degree where the research question could not be properly addressed, the work was excluded. A third guideline was the originality of the research question and methodology. If a new problem or approach was raised the work was more likely to be included in this bibliography.

Finally, we have included a section of annotations on works that had as a goal the review of empirical studies that analyzed the relationship between crime and economic conditions. The reviews provide a succinct summary of the problems and general findings of research efforts too numerous to be annotated. For example, there are a multitude of pre-depression and depression era research efforts that have been excluded from this bibliography because they have been exhaustively reviewed by Thorsten Sellin in his Research Memorandom on Crime in the Depression (1937). Thus the focus of this bibliography is more contemporary works.

SECTION I: REVIEWS OF THE LITERATURE

Sellin, Thorsten
1937 Research Memorandum on Crime in The Depression. Social Science Research Council Bulletin 37. Reprinted by Arno Press: New York (1972).

In this discussion of the relationship between economic conditions and criminality an exhaustive review of the literature is offered, as well as standards and questions researchers should address. The bibliographical review led Sellin to conclude that it would be difficult to arrive at any generalizations on the relationship in question because of the variety of indices employed in the studies examined and the lack of comparability in the classification of the offenses. Taking these factors into account, Sellin feels the only justifiable conclusion based on the evidence is that there appears to be a negative relationship between property offenses, especially the more "violent offenses of that class, i.e., burglary, etc.," and general economic conditions. Sellin felt it would not be proper to appraise the significance of conclusions from studies focusing on the depression alone till a "vastly greater array of local investigations" took place. The point was also made that the use of available, but not adequate, crime and economic indices is responsible for the fact that most of the studies in question are of doubtful value.

Demonstrating that the determination of the validity of both the crime and economic indices presents a methodological problem of the utmost concern, Sellin offers guidelines that minimize the problem:

1) Recorded data, suitable for the construction of crime indices can be furnished only by those offenses which are considered greatly injurious to the state, are of a public nature and induce the fullest possible cooperation with law enforcement agencies on the part of the victim or those interested in him. Such indices should be constructed for each offense class falling within this definition.

2) Series based on the offense as the unit of tabulation are superior to those based on the offender.

3) The value of a crime rate for index purposes decreases as the distance from the crime itself in terms of procedure increases.

4) Well conceived, detailed and controlled investigations are needed. Local data are better than national data in this regard.

4) Familiarity with the method of recording used and the changes which time has brought to the index is required or else the measuring instrument may be defective.

6) All recorded data may be used under certain conditions, for the purpose of constructing indices of law enforcement.

7) The explanation of why certain correlations occur among crime and economic data must be sought in the study of the offender.

8) Due to varying sensitivities between economic data and crime, analyses should be type of crime specific, class specific, and region specific.

Sellin next comments on and does a review of the meager amount of literature on the effects economic conditions have on the activity of law enforcement agencies, pointing out the advantages and disadvantages of using certain data sets to answer various research questions. The report is concluded by the raising of research questions in the form of hypotheses that should be tested to acquire more knowledge on the relationship between economic conditions and crime.

Vold, George B.
1958 "Economic Conditions and Criminality" in Theoretical Criminology. New York: Oxford University Press.

Vold addresses the question of why studies examining the relationship between economic conditions and criminality covering a period of over 125 years have yielded results that are inconclusive and contradictory. After a review of the literature Vold posits several factors which have served to undermine consistency of results in this type of research. First, it is argued that researchers and theorists have not sufficiently taken into account the subjective nature of poverty. For example, one perspective often empirically examined is simply that poverty causes crime. However, it is not often recognized that what is poverty to one man may be a level of satisfactory comfort, if not abundance to another. A uniform, objective definition of poverty will not tap into this subjective dimension. Researchers have also assumed that unemployment statistics are reflective of the state of a peoples' economic well-being, but unemployment too is often influenced by subjective factors such as willingness to work and the degree of fastidiousness exercised by the worker as to the kind of work he will do. Thus, phenomena such as poverty and unemployment do not lend themselves readily to truly accurate or uniform statistics.

Secondly, there is a frequent lack of perspective on the basic theoretical assumptions made about the relationships that may exist between economic conditions and crime. In general, Vold argues that two opposite assumptions need to be considered. (a) That the relationship is inverse; when economic conditions are good the amount of criminality should be low, but when times are bad, criminality should be high. (b) That the relationship is direct or positive; that criminality is an extension of normal economic activity and that therefore it increases or decreases in the same manner as normal economic endeavor.

Thirdly, it is also argued that there has been no clarification as to the selection of the proper time interval or lag between the changes in the index of economic activity and the effects on the crime phenomena. The question addressed is whether the effects of economic conditions are immediate and simultaneous or whether there is some period of delay or lag before the crime index is affected by changes in economic conditions. For example, in one study Vold shows that a coefficient of correlation of -.25 between the business cycle and crime at synchronous times changes to a +.18 with a lag of 2 years. A lag of one year produces a correlation of +.09, a change in sign and magnitude of .34. It is thus apparent that one's underlying assumptions regarding lag effects will have an important bearing on resulting theoretical interpretations. In sum, Vold argues that the above considerations should be explicitly taken into account by researchers in the field.

Gillespie, Robert W.
1975 "Economic Factors in Crime and Delinquency: A Critical Review of the Empirical Evidence." Final Report submitted to the National Institute of Law Enforcement and Criminal Justice. In Unemployment and Crime, Hearings before the Subcommittee on Crime, The House of Representatives, Serial No. 47, Washington, D.C.: U.S. Government Printing Office, pp. 601-626.

Over 30 studies examining the relationship between economic variables and criminal activity published between 1955 and 1975 are reviewed in detail. While the studies reviewed employ a wide variety of sample data, ranging from police districts in a given city to national time series data, a common element found in all the studies is an empirical analysis of the statistical relationship between the level of criminal activity and either the level of unemployment and/or some measure of the level or distribution of income in the sample population. Research produced by economists is the primary focus of the review. The author reports findings from each study and also examines the adequacy of the data and methodology employed by the researcher.

Statistical results of studies relating unemployment to crime show general support for a positive correlation between the two variables. Among the seven types and nineteen distinct sets of sample data utilized, only in state cross-sectional data was there a complete absence of a significant statistical relationship; while among the studies using city time series data consistent significant positive relationships were reported.

Gillespie argues that the dominance of findings of a significant positive relationship combined with the variety of sample data and method employed give strong support to the existence of a significant positive relationship between unemployment and crime. When specific crime rates were used rather than total rates, property crimes tended more frequently to show the positive relationship with unemployment than did crimes of violence. No conclusions were made regarding the relationship between unemployment and age-specific crime rates.

Since income can theoretically play two opposing roles -- income affecting both the demand and supply equation of criminal activity -- summarization of the empirical results of studies that examined the relationship was difficult. For example, theoretical arguments usually claim that low income tends to produce criminal behavior in individuals; however, high income may also serve to increase the attractiveness of high income recipients and that of their property as targets of criminal behavior. Thus, both high and low income work to increase the crime rate. Gillespie found that the empirical evidence generally tends to confirm both these arguments, however, estimates of the precise quantitative effect were too variable among the studies reviewed to permit a reliable "average" estimate.

Gillespie feels that the most important overall conclusion to be drawn from the review of these studies is that they have provided sufficient empirical evidence to establish the economic model of crime as a new and potentially valuable approach to the analysis of crime and its control.

FOR ADDITIONAL INFORMATION SEE ALSO:

Berg, Ivar
1967 "Economic Factors in Delinquency," in President's Commission on Law Enforcement and Administration of Justice, Task Force Report on Juvenile Delinquency and Youth Crime, Washington, D.C.: U.S. Government Printing Office, pp. 305-316.

Braithwaite, John D.
1978 "Unemployment and Adult Crime: An Interpretation of the International Evidence." Proceedings of the Institute of Criminology, University of Sydney, #36, Unemployment and Crime, July 19, 1978, pp. 54-68.

Glaser, Daniel
1978 "Economic and Sociocultural Variables Affecting Rates of Youth Unemployment, Delinquency and Crime," for UCLA Institute of Industrial Relations, February, 1978. In Conference Report on Youth Unemployment: Its Measurement and Meaning, U.S. Department of Labor, Washington, D.C.: U.S. Government Printing Office.

Guttentag, Marcia

1968 "The Relationship of Unemployment to Crime and Delinquency." *Journal of Social Issues* 24:105-114.

Pirog-Good, Maureen
1978 "A Review of the Theoretical and Empirical Literature that Relates Economic Factors to Youth Crime." Wharton Management and Behavioral Science Center, Discussion Paper (unpublished).

Radzinowicz, Leon
1939 "A Note on Methods of Establishing the Connection Between Economic Conditions and Crime." *The Sociological Review* 31: 260-280.

Ross, Marvin
1973 *Economic Conditions and Crime: Metropolitan Toronto 1965-1972* (Appendix). Ottawa: Department of the Solicitor General.

SECTION II: GENERAL ECONOMIC CONDITIONS AND CRIME

Radzinowicz, Leon
1941 "The Influence of Economic Conditions on Crime - I & II." *The Sociological Review* 33:1-36; 139-153.

Utilizing the method outlined in an earlier article (Radzinowicz, 1939), Radzinowicz empirically examined the relationship between economic conditions and crime in Poland between 1928 and 1934. This nation and time period was chosen because Poland underwent a business cycle during these years going from a period of prosperity (1927-29), through a depression (1929-33), to the beginnings of recovery (1934). Poland also offered fully available, uniform police statistics with clear distinctions between types of crime as well as reliable economic data. These data bases allowed for the correlation of indicators of economic conditions of certain social strata with the rates of specific crimes prevalent in those strata. The distinct social stratification in Poland also facilitated this type of analysis.

Simply eyeballing the data, Radzinowicz found a strong parallelism between increases in crime rates for offenses against property and downturns in the indices of economic conditions, for both the whole period and even year by year. Regional examinations and examination of the relationship between the economic conditions of certain social strata and crimes associated with those strata again revealed striking parallels between economic conditions and property crimes. However, the inverse relationship did not hold for all property crimes. Pocket picking was found to be positively related to economic conditions while fraud and embezzlement increased during both prosperous and depressed years. Hence, Radzinowicz argued that with regard to property offenses, the influence of economic conditions cannot be deduced a priori, but must be checked in every case with reference to strictly differentiated offenses. Offenses against the person, especially homicide and assault, were found to have the opposite relation with economic conditions. Offenses against the person increased during times of prosperity and decreased during economically depressed years. Radzinowicz linked this relationship to fluctuations in alcohol consumption, which was positively related to economic conditions.

After eliminating the possibility that non-economic factors (i.e., demographic changes, reporting changes) could have accounted for the variation in crime rates during the period, Radzinowicz concluded that there is a causal relationship between criminal activity and economic conditions in the sense that changes which occur in the volume of offenses are determined by changes in economic conditions. The relationship is most clear when economic conditions deteriorate suddenly and societal equilibrium is upset when the general economic status of social groups drops violently and rapidly.

Bogen, David
1944 "Juvenile Delinquency and Economic Trends." American Sociological Review 9:178-84

Examining the relationship between business activity and juvenile delinquency, the author argues that the common assumption that delinquency increases during times of depression is a misconception based on evidence accumulated from data on adult crime, not juvenile delinquency. Using juvenile court petitions for Los Angeles County for the years 1925 to 1941 as his crime measure (employing proportions with 1930 as a base), the author finds that this index parallels an index of business activity to a remarkable extent. The business activity index employed is a composite measure of bank debits, building permits, industrial employment, industrial power, telephones in use, new car registrations and department store sales (using 1930 as the base year) for Los Angeles County. It was also found that male delinquency more closely parallels business activity than does female delinquency. Bogen concludes that juvenile delinquency increases in periods of prosperity and decreases in periods of economic depression.

Short, James F.
1952 "A Note on Relief Programs and Crimes During the Depression of the 1930's." American Sociological Review 17:226-29.

This study examines the hypothesis that the relief programs administered during the Great Depression may have partially eliminated some of the anticipated social effects (e.g., increased criminal activity) of the business recession. Crime indices were constructed on the basis of crimes known to the police (UCR data) for the crimes of burglary, robbery, aggravated assault and homicide in cities over 100,000 population which had crime data available for the year 1929. Relief figures for the same cities, which showed little intercity variation, and the Ayres Index of business activity were then plotted along with the crime series for the years 1929 through 1940. Analysis of the graphs revealed that burglaries and robberies decreased when relief programs increased to a level where it could have influenced in a significant way the relation between crimes and the business cycle (1934 to 1936). No consistent relationship was discernible between relief and the aggravated assault and homicide series. Short concludes that while the results do not prove a causal connection between relief programs and a reduction in crimes against property, the data do indicate that relief programs should be considered as a possible mediating influence in the overall relationship between economic conditions and criminality.

Henry, Andrew, and James F. Short, Jr.
1954 Suicide and Homicide, New York: The Free Press of Glencoe

Henry and Short examine the relationship between fluctuations in the United States business cycle and rates of suicide and homicide. The authors hypothesize that both suicide and homicide are aggressive reactions to frustration generated by differential changes in status position accompanying business expansion and contraction. Although suicide and homicide are the main dependent variables, data are presented for the crimes of burglary, robbery, and aggravated assault. The crime data employed are crimes known to the police from the FBI's Uniform Crime Reports for 65 American cities. The economic data on the business cycle were obtained from the Ayres' Index of Industrial Activity in the United States, which was developed by the Cleveland Trust Company.

A time series analysis of the relationship between violent crimes against the person and the Ayres' Index of U.S. business activity from 1929-1949 was performed. Using both individual cities and groups of cities, it was found that both murder and aggravated assault correlated positively with large and small business cycles (19 of 23 correlations were positive, with r ranging from .11 to .69). When race was introduced as a control variable, in each of 3 comparisons, homicides of white persons correlated negatively with the business cycle while homicides of non-white persons correlated positively with the business cycle. In contrast with homicide, suicide correlated negatively with U.S. economic activity. Henry and Short also found consistently negative coefficients of correlation between the crimes of burglary and robbery and fluctuations in the business cycle. The authors conclude that their main frustration-aggression hypothesis was supported.

Parent, Fred John
1974 "A Community Level, Time-Series Analysis of Concomitant Variations in Economic and Crime Indexes: Sanford-Springvale, Maine 1951-1970. Ph.D. Dissertation, University of New Hampshire.

This is an attempt to test the applicability at the community level of some of the hypotheses presented by Henry and Short in Suicide and Homicide (1954).

Community level data for Sanford-Springvale, Maine, were obtained for the period 1951-1970. Annual arrest data were employed as the crime measure and were classified into crimes against persons and crimes against property. Economic indices, thought to be reflective of the community's economic state, were created from empirical indicators of the local manufacturing industry. State and County level data from the 1949 to 1970 period were employed to allow for both intraseries and interseries time series analysis.

The data exhibited a generally positive correlation between the overall economic series (e.g., rising and/or falling) and crimes against the person. A positive correlation between the economic series and crimes against property was found when the economic series was rising relative to the long term trend as well as when the economic series was falling relative to the long-term trend. Allowing for different lag times between the economic and crime series had negligible effects on the correlations. Data from the 1951-1960 period were analyzed to observe the effect of an economic crisis that resulted from the closing of the community's major industrial concern in 1954. Interseries comparisons revealed a general tendency for a reversal of the directions of the associations between economic and crime series when comparing the earlier (pre-1954) with the later period (post 1954).

Brenner, Harvey
1976 "Estimating the Social Costs of National Economic Policy: Implications for Mental and Physical Health and Criminal Aggression." Paper No. 5, Joint Economic Committee, Congress of the United States. Washington, D.C.: U.S. Government Printing Office.

The purpose of this study was to examine the effects of national economic behavior on the incidence of social pathology. The three national economic indicators chosen for analysis were per capita income, rate of unemployment and the rate of inflation. The measures of social pathology included mortality rates, mental hospital admission rates, imprisonment rates, suicide rates and homicide rates. Besides aggregate data for the United States, Brenner also included data for California, Massachusetts, New York, England, Wales and Sweden. The major focus, however, was the relationship between U.S. national economic patterns and levels of social pathology from approximately 1940-1973.

The main indicator used to measure criminal aggression was homicide mortality rates obtained from Vital Statistics of the United States, 1933-1973. Brenner found that unemployment and inflation were both significantly and positively associated with increased homicide mortality. However, contrary to common expectations, there was a positive association between per capita income and homicide for the years since 1964. Unemployment and per capita income were also positively associated with imprisonment rates but inflation did not contribute in a statistically significant way to the relationship. Brenner concluded that the most consistent pattern of relationship between national economic changes and each of the measures of social pathology was demonstrated with the unemployment rate.

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SECTION III: UNEMPLOYMENT AND CRIME

Glaser, Daniel , and Kent Rice
1959 "Crime, Age, and Employment." American Sociological Review 24(5):679-686.

Glaser and Rice argue that past failures to find marked relationships between crime and economic conditions reflect the failure of researchers to differentiate the criminal population by age and crime by type of offense. The authors hypothesize that (1) the frequency of crimes committed by juveniles varies inversely with unemployment rates, and (2) the frequency of property crimes committed by adults varies directly with unemployment rates. To test their hypotheses Glaser and Rice performed a longitudinal analysis of variations in the volume of fingerprint arrests reported in the FBI's Uniform Crime Reports for the period 1932 to 1950. Age-specific arrest rates were correlated with both the total and roughly comparable age-specific male civilian unemployment rates.

The results of analysis showed that the first hypothesis was clearly verified -- juvenile crime was negatively correlated with unemployment (e.g., r = -.62 for 17 year old arrestees). The second hypothesis, stating a positive relationship between adult crime and unemployment, was verified with respect to adults age 19 through 34 (e.g., r = .51 for 21-24 year old arrestees), but an unexpected inverse relationship was found between crime and unemployment for adults 35 and older (e.g., r = -.64 for 45+ arrestees). The latter finding was interpreted to be an artifact of the data, since the authors expressed the total number of arrests reported for each age group as a percent of the total arrests reported for all ages. Thus, any marked change in arrests for one age group, expressed as a percentage of all arrests, would produce an inverse change in the percentage contributed by other age groups.

To eliminate the artifact problem Glaser and Rice correlated national age-specific unemployment rates with local municipal age-specific arrest rates published by the police departments of Chicago, Cincinnati and Boston from 1930 to 1956. The age-specific arrest rates were expressed as a percent of the corresponding age population for each municipality. It was found that national adult unemployment rates were positively and significantly correlated with adult arrest rates for property crimes. Crimes against persons and misdemeanors showed smaller but positive correlations for all age categories in each city except for the 35 and older age group in Chicago. As with the national arrest data, juvenile crime was negatively correlated with unemployment, the one exception being the 18 to 20 age category in Boston. Glaser and Rice conclude that, overall, their two major hypotheses were confirmed.

Fleischer, Belton M.
1963 "The Effect of Unemployment on Juvenile Delinquency." Journal of Political Economy 71:543-55.

Combining a differential opportunity and rational actor approach to delinquency, Fleischer hypothesized that unemployment should be positively correlated with delinquency among young people independently of labor-market status, although the sensitivity to labor-market conditions may vary with age. Data on the age patterns of juvenile delinquency were presented and analyzed which suggested that labor-market conditions may be an important factor in delinquency. To test the relationship it was argued that time-series analysis should be used because control of most non-labor market variables is inherent in the design while in cross-sectional analysis control over variables that might be significantly related to crime and thus confound the original relationship in question is problematic.

Employing a regression analysis of the Glaser and Rice 3-City Data (Chicago, Cincinnati, Boston), it was found that unemployment and arrests for property crimes are positively correlated, regardless of age groups. Male, age-specific unemployment rates were correlated with the appropriate male, age-specific property crime arrest rate in the regression equation. The age groups considered were 14 to 19 year olds and 20 to 24 year olds. The difference between the Fleischer and Glaser and Rice findings was attributed to the inclusion of the effect of war and a trend variable in the present study. The purpose of the trend variable was to remove from measured delinquency the influence of both long term factors influencing actual criminality and of factors influencing the measurement of criminality. Since these factors are not known, a trend variable was used as a proxy. The number of personnel in the armed forces was used to account for the effect of war. The number of military personnel was found to be positively correlated with delinquency in the younger age group and negatively correlated in the older age group. Evidence of first order serial correlation was eliminated by recomputing the regressions using first differences. Elasticities of the arrest rate for property crimes with respect to unemployment (a summary statistic which denotes the percentage change in the arrest rate due to a 1% change in the unemployment rate) was found to be between .10 and .25, depending in part upon which age group was in question.

Fleischer conducted a similar analysis using national level data from the the years 1932 to 1961. Arrest data from the Uniform Crime Reports and national unemployment figures were used; both being male, age-specific rates. For years prior to 1940, there are no available male, age-specific unemployment figures, so estimates that have been adopted officially by the U.S. Department of Labor were used. Conducting complicated treatments of trend to account for the 1952 change in the method of data collection on arrests (juveniles no longer being fingerprinted), results quite similar to those for the Three Cities were produced -- a positive relationship between the age-specific unemployment and crime rates being found.

Gibbs, Jack
1966 "Crime, Unemployment and Status Integration." British Journal of Criminology 6:49-58.

Gibbs formulates a theory of status integration to explain Glaser and Rice's finding that juvenile crime is negatively correlated with unemployment while adult crime is positively correlated with unemployment. Status integration refers to the degree to which status occupancy in a population conforms to a particular pattern. When the proportion in a given age group who are not employed is high, an increase in unemployment actually increases integration of age with labor force status. Since the proportion of juveniles employed is not very high, a youth who becomes unemployed is not forced into an alien situation in which goals appropriate to his age group cannot be achieved. An unemployed adult, however, is faced with decreased status integration and a situation where goals cannot be achieved with legal means, thus increasing the probability of crime. Gibbs states the following empirical proposition: Unemployment in an age group varies inversely over time with the property crime rate to the extent that members of the age group are not employed.

To test this proposition Gibbs utilizes the Glaser and Rice data (FBI age-specific arrest rates from 1932 to 1950 and age-specific male unemployment rates) and adds Census data on the proportion of a specific age group unemployed or not in the labor force for 1940. He correlates Glaser and Rice's coefficients of correlation between age-specific, male property crime arrest rates and unemployment rates with the age-specific proportion of males not in the labor force or unemployed. The coefficient of correlation (rho) was -.54, indicating that as the proportion of an age group not employed increases, there is an increasingly inverse relationship between the unemployment rate and crime rate. Gibbs concludes that the status integration perspective can account for these findings.

Singell, Larry D.
  1967 "An Examination of the Empirical Relationship Between Unemployment and Juvenile Delinquency." American Journal of Economics and Sociology 26:377-86.

This work was an attempt to assess quantitatively the expected reduction in juvenile delinquency that would result from a reduction in the unemployment rate. The effect of unemployment on juvenile delinquency was summarized by an elasticity equation which denoted the percent change in the delinquency rate due to a 1% change in the unemployment rate. Two elasticity equations were developed; one having a constant elasticity, the other a variable elasticity. Cross-sectional and time series analyses were then conducted, testing which equation best described the relationship as well as finding the respective elasticities.

Cross-sectional analysis employed census tracts in Detroit as the unit of analysis. Delinquency was measured by the total number of contacts with the Youth Bureau of the Detroit Police Department divided by the age specific population. Unemployment was measured by the percent of the labor force unemployed for each census tract. Age-specific unemployment figures were not available. All the data employed were for the year 1960. Results from this analysis were found to be very questionable by the author, mainly because unemployment may have entered the correlation as a surrogate for social class, or some other highly correlated variable. To better test the relationship, census tracts were reclassified according to socioeconomic rank, and simple correlation-regression analysis was employed, holding socioeconomic rank constant. The resulting correlation coefficients between delinquency and unemployment were all statistically insignificant. Singell contended that the results do not disconfirm the existence of a significant relationship because the relationship in question is difficult to identify using cross-sectional analysis due to the problem of holding other variables constant.

Employing the same measures of delinquency and unemployment, Singell conducted a time series analysis using monthly data from Detroit for the years 1950 to 1961. (Figures were seasonally adjusted with no lag period employed.) For both equations, the coefficient of determination was statistically insignificant at the .05 level. Singell claimed that this is not reflective of the actual relationship, arguing that the use of inadequate data was the reason why the small relationship was found. However, the author still maintains that the time-series estimates are more superior than the cross-sectional estimates because of better internal mathematical and logical consistency. He concluded, albeit with caution, that the data suggest that a cut in the unemployment rate by 1% would lead to a cut in delinquency rates of from one-fourth to one-sixth of 1%.

Votey, Harold L., and Llad Phillips
1969 Economic Crimes: Their Generation, Deterrence and Control
Springfield, Virginia: U.S. Clearinghouse for Federal Scientific and Technical Information.

Two variants of the hypothesis that a worsening of opportunities to earn income by socially acceptable means should increase economic crime are posited and then tested. A model is developed to test each variant, employing arrest data (UCR Type I Offenses), labor force statistics and school enrollment statistics for the period 1952 to 1967.

The first model -- The Pure Labor Force Model -- postulates that the probability of arrest is a function of labor market conditions. Employment, unemployment and labor force participation data were classified by age, race and sex. The age classifications examined were 16-17, 18-19, and 20-24. For most of the age groups studied, it was found that approximately 98% of the rising trend of property crime committed by members in each age group was explained by the worsening of economic conditions as measured by each respective age group's unemployment and labor force participation rates. The exception was that for non-whites in the 20-24 year age group employment conditions seemed unrelated to criminality. Another finding indicates that persons not in the labor force or unemployed appear to have higher tendencies toward committing property crimes than persons who are employed. The exceptions to this were 16 to 17 and 18 to 19 year old whites. The pure labor force model was ineffective in explaining trends in the crimes against persons (homicide, aggravated assault and rape).

The second variant, the School Enrollment-Labor Force Model tested the postulate that the probability of arrest is a function of labor market conditions and school enrollment status. The data did not permit a breakdown of the population into subgroups by race. Results were more limited than the results from the earlier model because only property crimes and the 16-17 and 18-19 year old age groups were considered. For 16-17 year olds, significant results were obtained for all the property crimes, while for 18-19 year olds results were statistically significant only for larceny and burglary (figures not reported). High school dropouts in the 18-19 year old category had higher criminality coefficients than those for enrollees, irrespective of labor force classification. Within the dropout classification, those unemployed and not in the labor force had higher coefficients of criminality than those employed. The same basic results were found for 16-17 year olds.

Phillips, Llad, Harold L. Votey, Jr., and Donald Maxwell
1972 "Crime, Youth and the Labor Market." Journal of Political Economy 80:491-504.

These authors posited and tested the hypothesis that increasing crime rates among youth can be explained by deteriorating economic opportunities. It was argued that in relating labor-market opportunities to arrest rates, one must consider labor-force participation rates as well as unemployment rates. The reasons for this are that since youth have lower participation rates, unemployment rates will have less weight because of the large number of youth outside the labor force and because participation rates capture the impact of both past and present unemployment rates.

Using age-specific data, but limiting analysis to 18-19 year old males, the authors sought to explain variations in the property crime rates of larceny, burglary, robbery and auto theft for this age group from 1953-1967 in terms of variations in the proportional distribution of males in this age group among all possible classifications of labor-market status and race. Having available only age-specific arrest rates (UCR national data), a proxy for age-specific offense rates was obtained by dividing the age-specific arrest rates by the ratio of offenses cleared by arrest for the population as a whole. It was assumed that the clearance rates for 18-19 year olds was proportional to the clearance rate for the whole population.

Models were then developed which had three different partitions or classifications. The most detailed partition placed everyone in four mutually exclusive and exhaustive classes. Because of collinearity, the independent variables predicted crime rates better if racial categories were combined and all the population was categorized by either of two trichotomies: (1) working, non-working (either unemployed or not in the labor force) and other; (2) in the labor force, not in the labor force and other. While the first trichotomy produced significant positive relations between the proportion not working and crime, the second trichotomy resulted in greater explanatory power. Although neither formulation explicitly introduced the unemployment rate, its impact on the crime rate can be inferred from a comparison of the results obtained by the two formulations. Since the formulation which classified those unemployed with those working had a greater explanatory power than the formulation which classified the unemployed with those not in the labor force, this implies that, with respect to criminal activity, the unemployed are more homogeneous with those working than with those not in the labor force.

Using the most detailed model to forecast crime rates for 1968-70, it was found that the forecasts followed the pattern well for all the crimes but larceny. It was concluded that labor-market opportunities are sufficient to explain increasing crime rates for youth, with labor-force participation rates being a better indicator of the relationship than unemployment rates.

Allison, John P.
1972 "Economic Factors and the Rate of Crime." Land Economics 48:193-96.

Using a sample of cities with a 1960 population over 25,000 within 40 miles of Chicago (including Chicago itself), this researcher tests the usefulness of 14 economic and demographic variables as predictors of the level of crime of a city. Without stating what his measure of the crime rate is nor what his data sources are, a stepwise linear regression was performed. Of the 14 independent variables utilized, Allison found that six variables explained most of the variance in crime rates with the unemployment rate being the most significant explanatory variable. While the regression equation explained 85% of the total variance in the crime rates, the unemployment rate alone accounted for 57% of the variance. In order of their importance, the other significant predictors found were 1) percent of males in the population, 2) community expenditures for parks and recreation, 3) the mean number of years of schooling of the population, 4) the proportion of the population aged 15 to 24, and 5) the distance the community is from the core of the city.

Ross, Marvin
1973 *Economic Conditions and Crime: Metropolitan Toronto 1965-1972*. Ottawa: Department of the Solicitor General.

Ross develops an economic model in which an individual's anticipated future earnings (i.e., attainment of goals) is dependent upon the present and previous state of the economy and his perception of the likelihood that he will attain them through legitimate means. The model assumes that (1) all members of society desire the accumulation of wealth and (2) the end result in the inability to attain these goals legitimately will be either the commission of a property crime or aggression resulting from frustration. Unemployment rates are used to indicate an individual's perceived likelihood of attainment of future earnings in the legitimate sphere and the general state of the economy. It is hypothesized that unemployment rates will be positively correlated with juvenile property crime rates and adult violent crime rates.

The number of males arrested or summonsed monthly in Toronto between 1965 and 1972 for robbery, breaking and entering, theft over $50, woundings and assaults was utilized as the crime indicator. Unemployment rates were obtained for the Province of Ontario, and thus were not strictly comparable with Toronto crime rates. Hypotheses were tested using a simple linear regression model in which the dependent variable is the male age specific rate for both property crime and crimes of violence and the independent variable is the male age-specific unemployment rate. Lags were introduced in the data for periods from one to six months, since crime is seen as a function of unemployment not only in the present period but also in previous periods.

All regressions for property crime in the 16-20 year old age category were significant at the .001 level. By lagging the data the correlation increased up to the second month ($r = .52$) at which point the correlation began dropping but still remained significant. The same pattern of increasing positive correlations up to the second month ($r = .54$) followed by a consistent decrease was also observed for crimes of violence (woundings and assaults). Property crime in the 20 years or older age category showed small inconsistent positive relationships, but in this group the highest correlation ($r = .27$) was found in the first lagged month. Regression results for crimes of violence in the 20+ group exhibited the same pattern as the 16-20 age group -- correlations rising to a peak ($r = .30$) in the second month and then dropping. Although significant at the .01 level, this relationship is not as strong as originally predicted. Ross concludes that the findings of this study indicate a clear relationship between unemployment and both property crime and crimes of violence, particularly for the 16-20 year old age group.

Spector, Paul E.
1975 "Population Density and Unemployment: The Effects on the Incidence of Violent Crime in the American City." Criminology 12(4):399-401.

The purpose of this study was to investigate systematically the relationship of unemployment and population density to the violent crime rate in American cities. The Standard Metropolitan Statistical Area (SMSA) was chosen as the unit of analysis. The violent crime index was the total incidence of violent crime per 100,000 population taken from the FBI's Uniform Crime Reports for 1970, gathered for each SMSA in a sample of 103 SMSA's. Unemployment and population density information were taken from the County and City Data Book. A multiple regression analysis of the violent crime rate on the independent variables was performed. Spector found no significant relationships between the incidence of violent crime and either the measure of density or the unemployment rate. However, he did find a strong positive relationship between city size and violence, and a relationship between area of the country and violence. The author concludes that population density and unemployment are at best only minor contributors to the violent crime rate.

Kvalseth, Tarald O.
1977 "A Note on the Effects of Population Density and Unemployment on Urban Crime." Criminology 15(1):105-110.

In this research note Kvalseth examines the impact of unemployment and density on the crimes of robbery, aggravated assault, rape, residential burglary, nonresidential burglary, and the total number of burglaries for Atlanta, Georgia. Although not stated, the crime data were presumably obtained from the FBI's Uniform Crime Reports. A 79 census tract area within Atlanta, which constituted about 66% of the city's total number of census tracts, served as the data base for the study. In a regression analysis the author found that the rate of male unemployment had a significant and positive influence on the rates of robbery and rape. The level of female unemployment was found to be significantly and positively related only to the crime of rape. Based on his data and a review of the relevant literature Kvalseth concluded that: (1) the total urban unemployment rate has a positive influence on the rates of burglary and larceny, (2) the male unemployment rate exerts a positive influence on the robbery rate, and (3) both the male and female unemployment rates have a positive effect on the rate of rape.

Kraus, J.
1978 "Juvenile Unemployment and Delinquency." In Unemployment and Crime, Proceedings of the Institute of Criminology, University of Sydney #36, July 19, 1978, pp. 21-32.

Three independent methods of correlation analysis -- longitudinal, individual-level, and cross-sectional -- were employed to examine the relationship between juvenile unemployment and delinquency in New South Wales, Australia. The time period under study was 1964-1977. Two independent measures of unemployment trends were used, (1) average annual rates of unemployment for 15-19 year old males in the Australian labor force, and (2) average July-October rates of registered unemployed in the population of 15-20 year old males in New South Wales. Delinquency was measured by annual rates of court appearances of working age (15-17) male juveniles and school age (13-14) juveniles. The purpose for utilizing both age groups was to determine the possible direct and indirect effects of unemployment (i.e., unemployment of working age juveniles may indirectly affect school age juvenile delinquency).

In the longitudinal analysis no significant relationship between unemployment and delinquency rates of working age juveniles was discovered ($r = .35$; $p > .10$). The correlation between unemployment and delinquency rates of school age juveniles ($r = .07$) was found not to be statistically significantly lower than for working-age juveniles. It was thus concluded that the direct effects of unemployment have no stronger association than do indirect ones.

Unemployment among adjudicated juvenile offenders of working age (15-18) was also looked at for the period 1974-1977. A "goodness of fit" test indicated that, for every year under consideration, the number of unemployed among adjudicated delinquents was significantly greater than the expected number (.0005 level of significance).

An ecological analysis was then conducted to see if there was a difference between unemployment rates of delinquents and nondelinquents when the area of residence was held constant. A period of full employment in which there was considerable variation among localized unemployment levels was examined (1971-1972), to ascertain if factors other than the availability of work can determine the rates of unemployment and delinquency. Highly significant ecological correlations were found between unemployment rates and delinquency rates. No difference was found between the unemployment rates of delinquents and nondelinquents when area of residence was held constant. The inference is that while delinquency is associated with unemployment independently of existing employment opportunities, unemployment enforced upon the juvenile male labor force by economic conditions is not a precursor of delinquency.

The author concludes that the overall findings indicate that there has been no statistical relationship, and therefore that there can be no causal relationship between juvenile unemployment and juvenile delinquency, during the period under study in New South Wales.

Payne, Wardell Justin
1978 Structural Effects of Unemployment on Juvenile Delinquency and Crime Rates: A Synchronic Cross-Sectional Analysis.
Ph.D. Dissertation -- University of Southern California.

In this empirical examination of the relationship between unemployment, labor force participation rates and crime, a cross sectional analysis was conducted on data for Los Angeles County from 1970. Crime data were derived from the records of the Los Angeles County Probation Department and employment figures were taken from the 1970 United States Census. The units of analysis were 133 Study Areas, which are aggregated census tracts that correspond to Los Angeles County Welfare Planning Districts. Census data were available for the aggregated census tracts.

Zero-order and multivariate regressions were performed using age and race specific juvenile delinquency rates as the dependent variable. These rates were classified by offense type (property, personal and status offenses) and analysis by race included the ethnic groups: Anglo-white, black and Spanish-surnamed. Age specific offense rates were correlated with male adult and female adult unemployment rates, median annual family income and youth labor force participation rates.

The analysis revealed a direct relationship between juvenile crime and unemployment, a finding not supportive of conclusions reached in the Glaser and Rice (1959) study. However, the direct relationship found between adult crime and unemployment did support the earlier findings of Glaser and Rice (1959) and Fleischer (1966). Payne found the association between unemployment and delinquency or adult crime to be smaller in race specific analysis than in non-race specific analysis. He attributed this discrepancy to the possible statistical effects homogeneous districts have on ecological correlations. An inverse relationship between delinquency and crime rates and youth labor force participation rates was also observed.

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Appendix B

NCS Household Interview Schedule

Form Approved: O.M.B. No. 43-R0587

FORM NCS-1 AND NCS-2
(4-19-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
U.S. DEPARTMENT OF JUSTICE

NATIONAL CRIME SURVEY
NATIONAL SAMPLE
NCS-1 – BASIC SCREEN QUESTIONNAIRE
NCS-2 – CRIME INCIDENT REPORT

NCS 1 and 2

NOTICE – Your report to the Census Bureau is confidential by law (U.S. Code 42, Section 3771). All identifiable information will be used only by persons engaged in and for the purposes of the survey, and may not be disclosed or released to others for any purpose.

Sample (cc 4)	Control number (cc 5) PSU	Segment	Ck	Serial
JO _____				

Household number (cc 2)	Land use (cc 9–11)

INTERVIEWER: Fill Sample and Control numbers, and items 1, 2, 4, and 9 at time of interview.

1. Interviewer identification

(010) Code ____ | Name ____

2. Record of interview

(011) Line number of household respondent (cc 12) ____ | Date completed ____

3. TYPE Z NONINTERVIEW

Interview not obtained for
Line number

(016) ________
(017) ________
(018) ________
(019) ________

NOTE: Fill NCS-7 Noninterview Record, for Types A, B, and C noninterviews.

Complete 14–21 for each line number listed.

4. Household status

(020)
1 ☐ Same household as last enumeration
2 ☐ Replacement household since last enumeration
3 ☐ Previous noninterview or not in sample before

5. Special place type code (cc 6c)

(021) ________

6. Tenure (cc 8)

(022)
1 ☐ Owned or being bought
2 ☐ Rented for cash
3 ☐ No cash rent

7. Type of living quarters (cc 15)

Housing unit

(023)
1 ☐ House, apartment, flat
2 ☐ HU in nontransient hotel, motel, etc.
3 ☐ HU – Permanent in transient hotel, motel, etc.
4 ☐ HU in rooming house
5 ☐ Mobile home or trailer
6 ☐ HU not specified above – *Describe* ________

OTHER Unit

7 ☐ Quarters not HU in rooming or boarding house
8 ☐ Unit not permanent in transient hotel, motel, etc.
9 ☐ Vacant tent site or trailer site
10 ☐ Not specified above – *Describe* ________

8. Number of housing units in structure (cc 26)

(024)
1 ☐ 1
2 ☐ 2
3 ☐ 3
4 ☐ 4
5 ☐ 5–9
6 ☐ 10 or more
7 ☐ Mobile home or trailer
8 ☐ Only OTHER units

ASK IN EACH HOUSEHOLD:

9. (Other than the . . . business) does anyone in this household operate a business from this address?

(025)
1 ☐ No
2 ☐ Yes – **What kind of business is that?** ________

INTERVIEWER: Enter unrecognizable businesses only

CENSUS USE ONLY

(026) **10. Family income (cc 27)**

1 ☐ Under $1,000
2 ☐ $1,000 to 1,999
3 ☐ 2,000 to 2,999
4 ☐ 3,000 to 3,999
5 ☐ 4,000 to 4,999
6 ☐ 5,000 to 5,999
7 ☐ 6,000 to 7,499
8 ☐ 7,500 to 9,999
9 ☐ 10,000 to 11,999
10 ☐ 12,000 to 14,999
11 ☐ 15,000 to 19,999
12 ☐ 20,000 to 24,999
13 ☐ 25,000 to 49,999
14 ☐ 50,000 and over

11a. Household members 12 years of age and OVER

(027) ________ Total number

b. Household members UNDER 12 years of age

(028) ________ Total number
0 ☐ None

12. Crime Incident Reports filled

(029) ________ Total number – *Fill item 31 on Control Card*
0 ☐ None

13a. Use of telephone (cc 25)

(030)
☐ Phone in unit (Yes in cc 25a)
Phone interview acceptable? (cc 25c or 25d)
1 ☐ Yes . . . . } *SKIP to next applicable item*
2 ☐ No – Refused number } *SKIP to next applicable item*
☐ Phone elsewhere (Yes in cc 25b)
Phone interview acceptable? (cc 25c or 25d)
3 ☐ Yes . . . . } *SKIP to next applicable item*
4 ☐ No – Refused number } *SKIP to next applicable item*
5 ☐ No phone (No in cc 25a and 25b)

13b. Proxy information – *Fill for all proxy interviews*

(1) Proxy interview obtained for line number ________

Proxy respondent name	Line number

Reason for proxy interview ________

(2) Proxy interview obtained for line number ________

Proxy respondent name	Line number

Reason for proxy interview ________

If more than 2 Proxy interviews, continue in notes.

(031)	(032)	(033)

PERSONAL CHARACTERISTICS

14. NAME (of household respondent) KEYER – BEGIN NEW RECORD	15. TYPE OF INTERVIEW	16. LINE NO. (cc 12)	17. RELATIONSHIP TO HOUSEHOLD HEAD (cc 13b)	18. AGE LAST BIRTH-DAY (cc 17)	19. MARITAL STATUS (cc 18)	20a. RACE (cc 19a)	20b. ORIGIN (cc 19b)	21. SEX (cc 20)	22. ARMED FORCES MEMBER (cc 21)	23. Education – highest grade (cc 22)	24. Education – complete that year? (cc 23)
Last First	(034) 1 ☐ Per – Self-respondent 2 ☐ Tel. – Self-respondent 3 ☐ Per. – Proxy } *Fill 13b on cover page* 4 ☐ Tel. – Proxy } 5 ☐ NI – *Fill 16–21*	(035) Line No.	(036) 1 ☐ Head 2 ☐ Wife of head 3 ☐ Own child 4 ☐ Other relative 5 ☐ Non-relative	(037) Age	(038) 1 ☐ M. 2 ☐ Wd. 3 ☐ D. 4 ☐ Sep. 5 ☐ NM	(039) 1 ☐ W. 2 ☐ Neg. 3 ☐ Ot.	Origin	(040) 1 ☐ M 2 ☐ F	(041) 1 ☐ Yes 2 ☐ No	(042) Grade	(043) 1 ☐ Yes 2 ☐ No

CHECK ITEM A Look at item 4 on cover page. Is this the same household as last enumeration? (*Box 1 marked*)
☐ Yes – ***SKIP*** *to Check Item B* ☐ No

25a. Did you live in this house on April 1, 1970?
(044) 1 ☐ Yes – ***SKIP*** *to Check Item B* 2 ☐ No

b. Where did you live on April 1, 1970? (State, foreign country, U.S. possession, etc.)
State, etc. ________________ County ________________

c. Did you live inside the limits of a city, town, village, etc.?
(045) 1 ☐ No 2 ☐ Yes – *Name of city, town, village, etc.*
(046) ☐☐☐☐☐

(Ask males 18+ only)
d. Were you in the Armed Forces on April 1, 1970?
(047) 1 ☐ Yes 2 ☐ No

CHECK ITEM B Is this person 16 years old or older?
☐ No – ***SKIP*** to 29 ☐ Yes

26a. What were you doing most of LAST WEEK – (working, keeping house, going to school) or something else?
(048)
1 ☐ Working – ***SKIP*** to 28a
2 ☐ With a job but not at work
3 ☐ Looking for work
4 ☐ Keeping house
5 ☐ Going to school
6 ☐ Unable to work – ***SKIP*** to 26d
7 ☐ Retired
8 ☐ Other – *Specify* ________________
(If Armed Forces, ***SKIP*** *to 28a)*

b. Did you do any work at all LAST WEEK, not counting work around the house? (*Note: If farm or business operator in HH, ask about unpaid work.*)
(049) 0 ☐ No **Yes – How many hours?** ______ – ***SKIP*** to 28a

c. Did you have a job or business from which you were temporarily absent or on layoff LAST WEEK?
(050) 1 ☐ No 2 ☐ Yes – Absent – ***SKIP*** to 28a
3 ☐ Yes – Layoff – ***SKIP*** to 27

26d. Have you been looking for work during the past 4 weeks?
(051) 1 ☐ Yes **No – When did you last work?**
2 ☐ Less than 5 years ago – ***SKIP*** to 28a
3 ☐ 5 or more years ago } ***SKIP*** to 29
4 ☐ Never worked }

27. Is there any reason why you could not take a job LAST WEEK?
(052) 1 ☐ No Yes – 2 ☐ Already had a job
3 ☐ Temporary illness
4 ☐ Going to school
5 ☐ Other – *Specify* ________________

28a. For whom did you (last) work? *(Name of company, business, organization or other employer)*
____
(053) x ☐ Never worked – ***SKIP*** to 29

b. What kind of business or industry is this? *(E.g.: TV and radio mfg., retail shoe store, State Labor Department, farm)*
(054) ☐☐☐

c. Were you –
(055)
1 ☐ **An employee of a PRIVATE company, business or individual for wages, salary or commissions?**
2 ☐ **A GOVERNMENT employee (Federal, State, county, or local)?**
3 ☐ **SELF-EMPLOYED in OWN business, professional practice or farm?**
4 ☐ **Working WITHOUT PAY in family business or farm?**

d. What kind of work were you doing? *(E.g.: electrical engineer, stock clerk, typist, farmer, Armed Forces)*
(056) ☐☐☐

e. What were your most important activities or duties? *(E.g.: typing, keeping account books, selling cars, Armed Forces)*

Notes

HOUSEHOLD SCREEN QUESTIONS

29. Now I'd like to ask some questions about crime. They refer only to the last 6 months –

between ________ 1, 197___ and ________, 197___. During the last 6 months, did anyone break into or somehow illegally get into your (apartment/home), garage, or another building on your property?

☐ Yes – How many times? ____
☐ No

30. (Other than the incident(s) just mentioned) Did you find a door jimmied, a lock forced, or any other signs of an ATTEMPTED break in?

☐ Yes – How many times? ____
☐ No

31. Was anything at all stolen that is kept outside your home, or happened to be left out, such as a bicycle, a garden hose, or lawn furniture? (other than any incidents already mentioned)

☐ Yes – How many times? ____
☐ No

32. Did anyone take something belonging to you or to any member of this household, from a place where you or they were temporarily staying, such as a friend's or relative's home, a hotel or motel, or a vacation home?

☐ Yes – How many times? ____
☐ No

33. What was the total number of motor vehicles (cars, trucks, etc.) owned by you or any other member of this household during the last 6 months?

(057)
0 ☐ None – *SKIP* to 36
1 ☐ 1
2 ☐ 2
3 ☐ 3
4 ☐ 4 or more

34. Did anyone steal, TRY to steal, or use (it/any of them) without permission?

☐ Yes – How many times? ____
☐ No

35. Did anyone steal or TRY to steal parts attached to (it/any of them), such as a battery, hubcaps, tape-deck, etc.?

☐ Yes – How many times? ____
☐ No

INDIVIDUAL SCREEN QUESTIONS

36. The following questions refer only to things that happened to YOU during the last 6 months –

between ________ 1, 197___ and ________, 197___. Did you have your (pocket picked/purse snatched)?

☐ Yes – How many times? ____
☐ No

37. Did anyone take something (else) directly from you by using force, such as by a stickup, mugging or threat?

☐ Yes – How many times? ____
☐ No

38. Did anyone TRY to rob you by using force or threatening to harm you? (other than any incidents already mentioned)

☐ Yes – How many times? ____
☐ No

39. Did anyone beat you up, attack you or hit you with something, such as a rock or bottle? (other than any incidents already mentioned)

☐ Yes – How many times? ____
☐ No

40. Were you knifed, shot at, or attacked with some other weapon by anyone at all? (other than any incidents already mentioned)

☐ Yes – How many times? ____
☐ No

41. Did anyone THREATEN to beat you up or THREATEN you with a knife, gun, or some other weapon, NOT including telephone threats? (other than any incidents already mentioned)

☐ Yes – How many times? ____
☐ No

42. Did anyone TRY to attack you in some other way? (other than any incidents already mentioned)

☐ Yes – How many times? ____
☐ No

43. During the last 6 months, did anyone steal things that belonged to you from inside ANY car or truck, such as packages or clothing?

☐ Yes – How many times? ____
☐ No

44. Was anything stolen from you while you were away from home, for instance at work, in a theater or restaurant, or while traveling?

☐ Yes – How many times? ____
☐ No

45. (Other than any incidents you've already mentioned) was anything (else) at all stolen from you during the last 6 months?

☐ Yes – How many times? ____
☐ No

46. Did you find any evidence that someone ATTEMPTED to steal something that belonged to you? (other than any incidents already mentioned)

☐ Yes – How many times? ____
☐ No

47. Did you call the police during the last 6 months to report something that happened to YOU which you thought was a crime? (Do not count any calls made to the police concerning the incidents you have just told me about.)

☐ No – *SKIP* to 48
☐ Yes – What happened?

____
____
____

(058) ☐☐ ☐☐ ☐☐

CHECK ITEM C ➡ Look at 47. Was HH member 12+ attacked or threatened, or was something stolen or an attempt made to steal something that belonged to him?

☐ Yes – How many times? ____
☐ No

48. Did anything happen to YOU during the last 6 months which you thought was a crime, but did NOT report to the police? (other than any incidents already mentioned)

☐ No – *SKIP* to *Check Item E*
☐ Yes – What happened?

____
____
____

(059) ☐☐ ☐☐ ☐☐

CHECK ITEM D ➡ Look at 48. Was HH member 12+ attacked or threatened, or was something stolen or an attempt made to steal something that belonged to him?

☐ Yes – How many times? ____
☐ No

CHECK ITEM E ➡ Do any of the screen questions contain any entries for "How many times?"

☐ No – *Interview next HH member. End interview if last respondent, and fill item 12 on cover page.*
☐ Yes – *Fill Crime Incident Reports.*

FORM NCS-1 (4-15-77)

PERSONAL CHARACTERISTICS

14. NAME	15. TYPE OF INTERVIEW	16. LINE NO.	17. RELATIONSHIP TO HOUSEHOLD HEAD	18. AGE LAST BIRTH-DAY	19. MARITAL STATUS	20a. RACE	20b. ORIGIN	21. SEX	22. ARMED FORCES MEMBER	23. Education – highest grade	24. Education – complete that year?
KEYER – BEGIN NEW RECORD		(cc 12)	(cc 13b)	(cc 17)	(cc 18)	(cc 19a)	(cc 19b)	(cc 20)	(cc 21)	(cc 22)	(cc 23)
Last First	(034) 1 ☐ Per – Self-respondent 2 ☐ Tel. – Self-respondent 3 ☐ Per. – Proxy } *Fill 13b on cover page* 4 ☐ Tel. – Proxy } 5 ☐ NI – *Fill 16–21*	(035) Line No.	(036) 1 ☐ Head 2 ☐ Wife of head 3 ☐ Own child 4 ☐ Other relative 5 ☐ Non-relative	(037) Age	(038) 1 ☐ M. 2 ☐ Wd. 3 ☐ D. 4 ☐ Sep. 5 ☐ NM	(039) 1 ☐ W. 2 ☐ Neg. 3 ☐ Ot.	Origin	(040) 1 ☐ M 2 ☐ F	(041) 1 ☐ Yes 2 ☐ No	(042) Grade	(043) 1 ☐ Yes 2 ☐ No

CHECK ITEM A ➡ Look at item 4 on cover page. Is this the same household as last enumeration? (*Box 1 marked*)
☐ Yes – *SKIP to Check Item B* ☐ No

25a. Did you live in this house on April 1, 1970?
(044) 1 ☐ Yes – *SKIP to Check Item B* 2 ☐ No

b. Where did you live on April 1, 1970? (State, foreign country, U.S. possession, etc.)
State, etc. ________________ County ________________

c. Did you live inside the limits of a city, town, village, etc.?
(045) 1 ☐ No 2 ☐ Yes – *Name of city, town, village, etc.*
(046) ☐☐☐☐☐

(*Ask males 18+ only*)
d. Were you in the Armed Forces on April 1, 1970?
(047) 1 ☐ Yes 2 ☐ No

CHECK ITEM B ➡ Is this person 16 years old or older?
☐ No – *SKIP to 36* ☐ Yes

26a. What were you doing most of LAST WEEK – (working, keeping house, going to school) or something else?
(048)
1 ☐ Working – *SKIP to 28a*
2 ☐ With a job but not at work
3 ☐ Looking for work
4 ☐ Keeping house
5 ☐ Going to school
6 ☐ Unable to work – *SKIP to 26d*
7 ☐ Retired
8 ☐ Other – *Specify* ________
(*If Armed Forces, SKIP to 28a*)

b. Did you do any work at all LAST WEEK, not counting work around the house? (*Note: If farm or business operator in HH, ask about unpaid work.*)
(049) 0 ☐ No Yes – **How many hours?** ______ – *SKIP to 28a*

c. Did you have a job or business from which you were temporarily absent or on layoff LAST WEEK?
(050) 1 ☐ No 2 ☐ Yes – Absent – *SKIP to 28a*
3 ☐ Yes – Layoff – *SKIP to 27*

26d. Have you been looking for work during the past 4 weeks?
(051) 1 ☐ Yes No – **When did you last work?**
2 ☐ Less than 5 years ago – *SKIP to 28a*
3 ☐ 5 or more years ago } *SKIP to 36*
4 ☐ Never worked }

27. Is there any reason why you could not take a job LAST WEEK?
(052) 1 ☐ No Yes – 2 ☐ Already had a job
3 ☐ Temporary illness
4 ☐ Going to school
5 ☐ Other – *Specify* ________

28a. For whom did you (last) work? (*Name of company, business, organization or other employer*)
____
(053) x ☐ Never worked – *SKIP to 36*

b. What kind of business or industry is this? (*E.g.: TV and radio mfg., retail shoe store, State Labor Department, farm*)
(054) ☐☐☐

c. Were you –
(055)
1 ☐ **An employee of a PRIVATE company, business or individual for wages, salary or commissions?**
2 ☐ **A GOVERNMENT employee (Federal, State, county, or local)?**
3 ☐ **SELF-EMPLOYED in OWN business, professional practice or farm?**
4 ☐ **Working WITHOUT PAY in family business or farm?**

d. What kind of work were you doing? (*E.g.: electrical engineer, stock clerk, typist, farmer, Armed Forces*)
(056) ☐☐☐

e. What were your most important activities or duties? (*E.g.: typing, keeping account books, selling cars, Armed Forces*)

INDIVIDUAL SCREEN QUESTIONS

36. The following questions refer only to things that happened to YOU during the last 6 months – between ____ 1, 197____ and ____, 197____. Did you have your (pocket picked/purse snatched)?
☐ Yes – How many times? ______ ☐ No

37. Did anyone take something (else) directly from you by using force, such as by a stickup, mugging or threat?
☐ Yes – How many times? ______ ☐ No

38. Did anyone TRY to rob you by using force or threatening to harm you? (other than any incidents already mentioned)
☐ Yes – How many times? ______ ☐ No

39. Did anyone beat you up, attack you or hit you with something, such as a rock or bottle? (other than any incidents already mentioned)
☐ Yes – How many times? ______ ☐ No

40. Were you knifed, shot at, or attacked with some other weapon by anyone at all? (other than any incidents already mentioned)
☐ Yes – How many times? ______ ☐ No

41. Did anyone THREATEN to beat you up or THREATEN you with a knife, gun, or some other weapon, NOT including telephone threats? (other than any incidents already mentioned)
☐ Yes – How many times? ______ ☐ No

42. Did anyone TRY to attack you in some other way? (other than any incidents already mentioned)
☐ Yes – How many times? ______ ☐ No

43. During the last 6 months, did anyone steal things that belonged to you from inside ANY car or truck, such as packages or clothing?
☐ Yes – How many times? ______ ☐ No

44. Was anything stolen from you while you were away from home, for instance at work, in a theater or restaurant, or while traveling?
☐ Yes – How many times? ______ ☐ No

45. (Other than any incidents you've already mentioned) Was anything (else) at all stolen from you during the last 6 months?
☐ Yes – How many times? ______ ☐ No

46. Did you find any evidence that someone ATTEMPTED to steal something that belonged to you? (other than any incidents already mentioned)
☐ Yes – How many times? ______ ☐ No

47. Did you call the police during the last 6 months to report something that happened to YOU which you thought was a crime? (Do not count any calls made to the police concerning the incidents you have just told me about.)
(058)
☐ No – *SKIP to 48*
☐ Yes – **What happened?** ________________
____

CHECK ITEM C ➡ Look at 47 – Was HH member 12+ attacked or threatened, or was something stolen or an attempt made to steal something that belonged to him?
☐ Yes – How many times? ______ ☐ No

48. Did anything happen to YOU during the last 6 months which you thought was a crime, but did NOT report to the police? (other than any incidents already mentioned)
(059)
☐ No – *SKIP to Check Item E*
☐ Yes – **What happened?** ________________
____

CHECK ITEM D ➡ Look at 48 – Was HH member 12+ attacked or threatened, or was some thing stolen or an attempt made to steal something that belonged to him?
☐ Yes – How many times? ______ ☐ No

CHECK ITEM E ➡ Do any of the screen questions contain any entries for "How many times?"
☐ No – *Interview next HH member. End interview if last respondent, and fill item 12 on cover page.*
☐ Yes – *Fill Crime Incident Reports.*

Form Approved: O.M.B. No. 43-R0587

KEYER – BEGIN NEW RECORD

Line number

(101)

Screen question number

(102)

Incident number

(103)

Notes

NOTICE – Your report to the Census Bureau is confidential by law (U.S. Code 42, Section 3771). All identifiable information will be used only by persons engaged in and for the purposes of the survey, and may not be disclosed or released to others for any purpose.

FORM **NCS-2**
(4-15-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
U.S. DEPARTMENT OF JUSTICE

CRIME INCIDENT REPORT

NATIONAL CRIME SURVEY – NATIONAL SAMPLE

NCS 2

INCIDENT REPORT

1a. You said that during the last 6 months – *(Refer to appropriate screen question for description of crime).*

In what month (did this/did the first) incident happen? *(Show flashcard if necessary. Encourage respondent to give exact month.)*

(104) ______ Month (01–12) | Year 197____

(105) **CHECK ITEM A** Is this incident report for a series of crimes?
1 ☐ No – *SKIP* to 2
2 ☐ Yes – *(Note: series must have 3 or more similar incidents which respondent can't recall separately)*

b. In what month(s) did these incidents take place? *(Mark all that apply)*

(106)
1 ☐ Spring (March, April, May)
2 ☐ Summer (June, July, August)
3 ☐ Fall (September, October, November)
4 ☐ Winter (December, January, February)

c. How many incidents were involved in this series?

(107)
1 ☐ Three or four
2 ☐ Five to ten
3 ☐ Eleven or more
4 ☐ Don't know

INTERVIEWER: If this report is for a series, read the following statement.
(The following questions refer only to the most recent incident.)

2. About what time did (this/the most recent) incident happen?

(108)
1 ☐ Don't know
2 ☐ During the day (6 a.m. to 6 p.m.)
At night (6 p.m. to 6 a.m.)
3 ☐ 6 p.m. to midnight
4 ☐ Midnight to 6 a.m.
5 ☐ Don't know

3a. In what State and county did this incident occur?

☐ Outside U.S. – *END INCIDENT REPORT*

State ____________ County ____________

b. Did it happen INSIDE THE LIMITS of a city, town, village, etc.?

(109)
1 ☐ No
2 ☐ Yes – *Enter name of city, town, etc.*

(111) ☐☐☐☐☐ ____________

4. Where did this incident take place?

(112)
1 ☐ At or in own dwelling, in garage or other building on property *(Includes break-in or attempted break-in)*
2 ☐ At or in a vacation home, hotel/motel
} ***SKIP* to 6a**

3 ☐ Inside commercial building such as store, restaurant, bank, gas station, public conveyance or station
4 ☐ Inside office, factory, or warehouse
} **ASK 5a**

5 ☐ Near own home; yard, sidewalk, driveway, carport, apartment hall *(Does not include break-in or attempted break-in)*
6 ☐ On the street, in a park, field, playground, school grounds or parking lot
7 ☐ Inside school
8 ☐ Other – *Specify*
____
} ***SKIP* to Check Item B**

5a. Were you a customer, employee, or owner?

(113)
1 ☐ Customer
2 ☐ Employee
3 ☐ Owner
4 ☐ Other – *Specify* ____________

b. Did the person(s) steal or TRY to steal anything belonging to the store, restaurant, office, factory, etc.?

(114)
1 ☐ Yes
2 ☐ No
3 ☐ Don't know
} ***SKIP* to Check Item B**

6a. Did the offender(s) live there or have a right to be there, such as a guest or a workman?

(115)
1 ☐ Yes – *SKIP* to Check Item B
2 ☐ No
3 ☐ Don't know

b. Did the offender(s) actually get in or just TRY to get in the building?

(116)
1 ☐ Actually got in
2 ☐ Just tried to get in
3 ☐ Don't know

c. Was there any evidence, such as a broken lock or broken window, that the offender(s) (forced his way in/TRIED to force his way in) the building?

(117)
1 ☐ No
Yes – **What was the evidence? Anything else?** *(Mark all that apply)*
2 ☐ Broken lock or window
3 ☐ Forced door or window
4 ☐ Slashed screen
5 ☐ Other – *Specify*
____
} ***SKIP* to Check Item B**

d. How did the offender(s) (get in/try to get in)?

(118)
1 ☐ Through unlocked door or window
2 ☐ Had key
3 ☐ Don't know
4 ☐ Other – *Specify* ____________

(119) **CHECK ITEM B** Was respondent or any other member of this household present when this incident occurred? *(If not sure, ASK)*
1 ☐ No – *SKIP* to 13a
2 ☐ Yes

7a. Did the person(s) have a weapon such as a gun or knife, or something he was using as a weapon, such as a bottle, or wrench?

(120)
1 ☐ No
2 ☐ Don't know
Yes – **What was the weapon? Anything else?** *(Mark all that apply)*
3 ☐ Gun
4 ☐ Knife
5 ☐ Other – *Specify* ____________

b. Did the person(s) hit you, knock you down, or actually attack you in any way?

(121)
1 ☐ Yes – *SKIP* to 7f
2 ☐ No

c. Did the person(s) threaten you with harm in any way?

(122)
1 ☐ No – *SKIP* to 7e
2 ☐ Yes

CRIME INCIDENT QUESTIONS – Continued

7d. How were you threatened? Any other way? *(Mark all that apply)*

(123)
- 1 ☐ Verbal threat of rape
- 2 ☐ Verbal threat of attack other than rape
- 3 ☐ Weapon present or threatened with weapon
- 4 ☐ Attempted attack with weapon (for example, shot at)
- 5 ☐ Object thrown at person
- 6 ☐ Followed, surrounded
- 7 ☐ Other – *Specify* ______

SKIP to *10a*

e. What actually happened? Anything else? *(Mark all that apply)*

(124)
- 1 ☐ Something taken without permission
- 2 ☐ Attempted or threatened to take something
- 3 ☐ Harassed, argument, abusive language
- 4 ☐ Forcible entry or attempted forcible entry of house
- 5 ☐ Forcible entry or attempted entry of car
- 6 ☐ Damaged or destroyed property
- 7 ☐ Attempted or threatened to damage or destroy property
- 8 ☐ Other – *Specify* ↴ ______

SKIP to *10a*

f. How did the person(s) attack you? Any other way? *(Mark all that apply)*

(125)
- 1 ☐ Raped
- 2 ☐ Tried to rape
- 3 ☐ Hit with object held in hand, shot, knifed
- 4 ☐ Hit by thrown object
- 5 ☐ Hit, slapped, knocked down
- 6 ☐ Grabbed, held, tripped, jumped, pushed, etc.
- 7 ☐ Other – *Specify* ______

8a. What were the injuries you suffered, if any? Anything else? *(Mark all that apply)*

(126)
- 1 ☐ None – *SKIP* to *10a*
- 2 ☐ Raped
- 3 ☐ Attempted rape
- 4 ☐ Knife or gunshot wounds
- 5 ☐ Broken bones or teeth knocked out
- 6 ☐ Internal injuries, knocked unconscious
- 7 ☐ Bruises, black eye, cuts, scratches, swelling
- 8 ☐ Other – *Specify* ______

b. Were you injured to the extent that you needed medical attention after the attack?

(127)
- 1 ☐ No – *SKIP* to *10a*
- 2 ☐ Yes

c. Did you receive any treatment at a hospital?

(128)
- 1 ☐ No
- 2 ☐ Emergency room treatment only
- 3 ☐ Stayed overnight or longer – **How many days?** ↴

(129) ______

d. What was the total amount of your medical expenses resulting from this incident, INCLUDING anything paid by insurance? Include hospital and doctor bills, medicine, therapy, braces, and any other injury-related medical expenses.

INTERVIEWER – If respondent does not know exact amount, encourage him to give an estimate.

(130)
- 0 ☐ No cost – *SKIP* to *10a*
- $ ______ .
- x ☐ Don't know

9a. At the time of the incident, were you covered by any medical insurance, or were you eligible for benefits from any other type of health benefits program, such as Medicaid, Veterans' Administration, or Public Welfare?

(131)
- 1 ☐ No . . . . . .
- 2 ☐ Don't know
- 3 ☐ Yes

1–2: *SKIP* to *10a*

b. Did you file a claim with any of these insurance companies or programs in order to get part or all of your medical expenses paid?

(132)
- 1 ☐ No – *SKIP* to *10a*
- 2 ☐ Yes

9c. Did insurance or any health benefits program pay for all or part of the total medical expenses?

(133)
- 1 ☐ Not yet settled
- 2 ☐ None . . . .
- 3 ☐ All . . . .
- 4 ☐ Part

1–3: *SKIP* to *10a*

d. How much did insurance or a health benefits program pay?

(134) $ ______ . *(Obtain an estimate, if necessary)*

10a. Did you do anything to protect yourself or your property during the incident?

(135)
- 1 ☐ No – *SKIP* to *11*
- 2 ☐ Yes

b. What did you do? Anything else? *(Mark all that apply)*

(136)
- 1 ☐ Used/brandished gun or knife
- 2 ☐ Used/tried physical force (hit, chased, threw object, used other weapon, etc.)
- 3 ☐ Tried to get help, attract attention, scare offender away (screamed, yelled, called for help, turned on lights, etc.)
- 4 ☐ Threatened, argued, reasoned, etc., with offender
- 5 ☐ Resisted without force, used evasive action (ran/drove away, hid, held property, locked door, ducked, shielded self, etc.)
- 6 ☐ Other – *Specify* ______

11. Was the crime committed by only one or more than one person?

(137) 1 ☐ Only one ↴ 2 ☐ Don't know – *SKIP* to *12a* 3 ☐ More than one ↴

a. Was this person male or female?

(138)
- 1 ☐ Male
- 2 ☐ Female
- 3 ☐ Don't know

b. How old would you say the person was?

(139)
- 1 ☐ Under 12
- 2 ☐ 12–14
- 3 ☐ 15–17
- 4 ☐ 18–20
- 5 ☐ 21 or over
- 6 ☐ Don't know

c. Was the person someone you knew or was he a stranger?

(140)
- 1 ☐ Stranger
- 2 ☐ Don't know
- 3 ☐ Known by sight only
- 4 ☐ Casual acquaintance
- 5 ☐ Well known

1–4: *SKIP* to *e*

d. Was the person a relative of yours?

(141)
- 1 ☐ No
- **Yes – What relationship?**
  - 2 ☐ Spouse or ex-spouse
  - 3 ☐ Parent
  - 4 ☐ Own child
  - 5 ☐ Brother or sister
  - 6 ☐ Other relative – *Specify* ↴ ______

e. Was he/she –

(142)
- 1 ☐ **White?**
- 2 ☐ **Negro?**
- 3 ☐ **Other?** – *Specify* ↴ ______
- 4 ☐ Don't know

SKIP to *12a*

f. How many persons?

(143) ______

g. Were they male or female?

(144)
- 1 ☐ All male
- 2 ☐ All female
- 3 ☐ Male and female
- 4 ☐ Don't know

h. How old would you say the youngest was?

(145)
- 1 ☐ Under 12
- 2 ☐ 12–14
- 3 ☐ 15–17
- 4 ☐ 18–20
- 5 ☐ 21 or over – *SKIP* to *j*
- 6 ☐ Don't know

i. How old would you say the oldest was?

(146)
- 1 ☐ Under 12
- 2 ☐ 12–14
- 3 ☐ 15–17
- 4 ☐ 18–20
- 5 ☐ 21 or over
- 6 ☐ Don't know

j. Were any of the persons known or related to you or were they all strangers?

(147)
- 1 ☐ All strangers
- 2 ☐ Don't know
- 3 ☐ All relatives
- 4 ☐ Some relatives
- 5 ☐ All known
- 6 ☐ Some known

1–2: *SKIP* to *m*; 3–4: *SKIP* to *l*

k. How well were they known? *(Mark all that apply)*

(148)
- 1 ☐ By sight only
- 2 ☐ Casual acquaintance(s)
- 3 ☐ Well known

SKIP to *m*

l. How were they related to you? *(Mark all that apply)*

(149)
- 1 ☐ Spouse or ex-spouse
- 2 ☐ Parents
- 3 ☐ Own children
- 4 ☐ Brothers/sisters
- 5 ☐ Other – *Specify* ↴ ______

m. Were all of them –

(150)
- 1 ☐ **White?**
- 2 ☐ **Negro?**
- 3 ☐ **Other?** – *Specify* ↴ ______
- 4 ☐ Combination – *Specify* ↴ ______
- 5 ☐ Don't know

CRIME INCIDENT QUESTIONS – Continued

12a. Were you the only person there besides the offender(s)?

(151) 1 ☐ Yes – *SKIP* to *13a*
2 ☐ No

b. How many of these persons, not counting yourself, were robbed, harmed, or threatened? Do not include persons under 12 years of age.

(152) 0 ☐ None – *SKIP* to *13a*

________ Number of persons

c. Are any of these persons members of your household now? Do not include household members under 12 years of age.

(153) 0 ☐ No
Yes – How many, not counting yourself? ________

(ALSO MARK "YES" IN CHECK ITEM I ON PAGE 12)

13a. Was something stolen or taken without permission that belonged to you or others in the household?
INTERVIEWER – Include anything stolen from unrecognizable business in respondent's home. Do not include anything stolen from a recognizable business in respondent's home or another business, such as merchandise or cash from a register.

(154) 1 ☐ Yes – *SKIP* to *13f*
2 ☐ No

b. Did the person(s) ATTEMPT to take something that belonged to you or others in the household?

(155) 1 ☐ No – *SKIP* to *13e*
2 ☐ Yes

c. What did they try to take? Anything else? *(Mark all that apply)*

* (156) 1 ☐ Purse
2 ☐ Wallet or money
3 ☐ Car
4 ☐ Other motor vehicle
5 ☐ Part of car (hubcap, tape-deck, etc.)
6 ☐ Don't know
7 ☐ Other – *Specify* ________

CHECK ITEM C ➡ Did they try to take a purse, wallet, or money? *(Box 1 or 2 marked in 13c)*
☐ No – *SKIP* to *18a*
☐ Yes

d. Was the (purse/wallet/money) on your person, for instance in a pocket or being held?

(157) 1 ☐ Yes } *SKIP* to *18a*
2 ☐ No }

e. What did happen? Anything else? *(Mark all that apply)*

* (158) 1 ☐ Attacked
2 ☐ Threatened with harm
3 ☐ Attempted to break into house or garage
4 ☐ Attempted to break into car
5 ☐ Harassed, argument, abusive language
6 ☐ Damaged or destroyed property
7 ☐ Attempted or threatened to damage or destroy property
8 ☐ Other – *Specify* ________
} ***SKIP*** *to 18a*

f. What was taken that belonged to you or others in the household? Anything else?

(159) Cash: $________ .
and/or
Property: *(Mark all that apply)*

* (160) 0 ☐ Only cash taken – *SKIP* to *14c*
1 ☐ Purse
2 ☐ Wallet
3 ☐ Car
4 ☐ Other motor vehicle
5 ☐ Part of car (hubcap, tape-deck, etc.)
6 ☐ Other – *Specify* ________

CHECK ITEM D ➡ Was a car or other motor vehicle taken? *(Box 3 or 4 marked in 13f)*
☐ No – *SKIP* to Check Item E
☐ Yes

14a. Had permission to use the (car/motor vehicle) ever been given to the person who took it?

(161) 1 ☐ No . . . . . . } *SKIP* to Check Item E
2 ☐ Don't know }
3 ☐ Yes

b. Did the person return the (car/motor vehicle)?

(162) 1 ☐ Yes
2 ☐ No

CHECK ITEM E ➡ Is Box 1 or 2 marked in 13f?
☐ No – *SKIP* to *15a*
☐ Yes

c. Was the (purse/wallet/money) on your person, for instance, in a pocket or being held by you when it was taken?

(163) 1 ☐ Yes
2 ☐ No

CHECK ITEM F ➡ Was only cash taken? *(Box 0 marked in 13f)*
☐ Yes – *SKIP* to *16a*
☐ No

15a. Altogether, what was the value of the PROPERTY that was taken?
INTERVIEWER – Exclude stolen cash, and enter $0 for stolen checks and credit cards, even if they were used.

(164) $________ .

b. How did you decide the value of the property that was stolen? Any other way? *(Mark all that apply)*

* (165) 1 ☐ Original cost
2 ☐ Replacement cost
3 ☐ Personal estimate of current value
4 ☐ Insurance report estimate
5 ☐ Police estimate
6 ☐ Don't know
7 ☐ Other – *Specify* ________

16a. Was all or part of the stolen money or property recovered, not counting anything received from insurance?

(166) 1 ☐ None } *SKIP* to *17a*
2 ☐ All }
3 ☐ Part

b. What was recovered? Anything else?

(167) Cash: $________ .
and/or
Property: *(Mark all that apply)*

* (168) 0 ☐ Cash only recovered – *SKIP* to *17a*
1 ☐ Purse
2 ☐ Wallet
3 ☐ Car
4 ☐ Other motor vehicle
5 ☐ Part of car (hubcap, tape-deck, etc.)
6 ☐ Other – *Specify* ________

c. What was the value of the property recovered (excluding recovered cash)?

(169) $________ .

CRIME INCIDENT QUESTIONS – Continued

17a. Was there any insurance against theft?

(170)
1 ☐ No . . . . . } *SKIP* to 18a
2 ☐ Don't know } *SKIP* to 18a
3 ☐ Yes

b. Was this loss reported to an insurance company?

(171)
1 ☐ No . . . . . } *SKIP* to 18a
2 ☐ Don't know } *SKIP* to 18a
3 ☐ Yes

c. Was any of this loss recovered through insurance?

(172)
1 ☐ Not yet settled } *SKIP* to 18a
2 ☐ No . . . . } *SKIP* to 18a
3 ☐ Yes

d. How much was recovered?

INTERVIEWER – If property replaced by insurance company instead of cash settlement, ask for estimate of value of the property replaced.

(173) $__________ . 00

18a. Did any household member lose any time from work because of this incident?

(174)
0 ☐ No – *SKIP* to 19a

Yes – **How many members?**

____

b. How much time was lost altogether?

(175)
1 ☐ Less than 1 day
2 ☐ 1–5 days
3 ☐ 6–10 days
4 ☐ Over 10 days
5 ☐ Don't know

19a. Was anything that belonged to you or other members of the household damaged but not taken in this incident? For example, was a lock or window broken, clothing damaged, or damage done to a car, etc.?

(176)
1 ☐ No – *SKIP* to 20a
2 ☐ Yes

b. (Was/were) the damaged item(s) repaired or replaced?

(177)
1 ☐ Yes – *SKIP* to 19d
2 ☐ No

c. How much would it cost to repair or replace the damaged item(s)?

(178)
$__________ . 00 } *SKIP* to 20a
x ☐ Don't know } *SKIP* to 20a

d. How much was the repair or replacement cost?

(179)
x ☐ No cost or don't know – *SKIP* to 20a
$__________ . 00

e. Who paid or will pay for the repairs or replacement? Anyone else? *(Mark all that apply)*

(180)
1 ☐ Household member
2 ☐ Landlord
3 ☐ Insurance
4 ☐ Other – *Specify* __________

20a. Were the police informed of this incident in any way?

(181)
1 ☐ No
2 ☐ Don't know – *SKIP* to *Check Item G*
Yes – **Who told them?**
3 ☐ Household member } *SKIP* to *Check Item G*
4 ☐ Someone else } *SKIP* to *Check Item G*
5 ☐ Police on scene } *SKIP* to *Check Item G*

b. What was the reason this incident was not reported to the police? Any other reason? *(Mark all that apply)*

(182)
1 ☐ Nothing could be done – lack of proof
2 ☐ Did not think it important enough
3 ☐ Police wouldn't want to be bothered
4 ☐ Did not want to take time – too inconvenient
5 ☐ Private or personal matter, did not want to report it
6 ☐ Did not want to get involved
7 ☐ Afraid of reprisal
8 ☐ Reported to someone else
9 ☐ Other – *Specify* __________

CHECK ITEM G ➡ Is this person 16 years or older?
☐ No – *SKIP* to *Check Item H*
☐ Yes – *ASK 21a*

21a. Did you have a job at the time this incident happened?

(183)
1 ☐ No – *SKIP* to *Check Item H*
2 ☐ Yes

b. What was the job?

(184)
1 ☐ Same as described in NCS-1 items 28a–e – *SKIP* to *Check Item H*
2 ☐ Different than described in NCS-1 items 28a–e

c. For whom did you work? *(Name of company, business, organization or other employer)*

d. What kind of business or industry is this? *(For example: TV and radio mfg., retail shoe store, State Labor Dept., farm)*

(187) ☐☐☐

e. Were you –

(188)
1 ☐ **An employee of a PRIVATE company, business or individual for wages, salary or commissions?**
2 ☐ **A GOVERNMENT employee (Federal, State, county or local)?**
3 ☐ **SELF-EMPLOYED in OWN business, professional practice or farm?**
4 ☐ **Working WITHOUT PAY in family business or farm?**

f. What kind of work were you doing? *(For example: electrical engineer, stock clerk, typist, farmer)*

(189) ☐☐☐

g. What were your most important activities or duties? *(For example: typing, keeping account books, selling cars, finishing concrete, etc.)*

CHECK ITEM H ➡ Summarize this incident or series of incidents.

____

CHECK ITEM I ➡ Look at 12c on Incident Report, Is there an entry for "How many?"
☐ No
☐ Yes – *Be sure you have an Incident Report for each HH member 12 years of age or over who was robbed, harmed, or threatened in this incident.*

CHECK ITEM J ➡ Is this the last Incident Report to be filled for this person?
☐ No – *Go to next Incident Report.*
☐ Yes – Is this the last HH member to be interviewed?
  ☐ No – *Interview next HH member.*
  ☐ Yes – *END INTERVIEW. Enter total number of Crime Incident Reports filled for this household in Item 12 on the cover of NCS-1.*

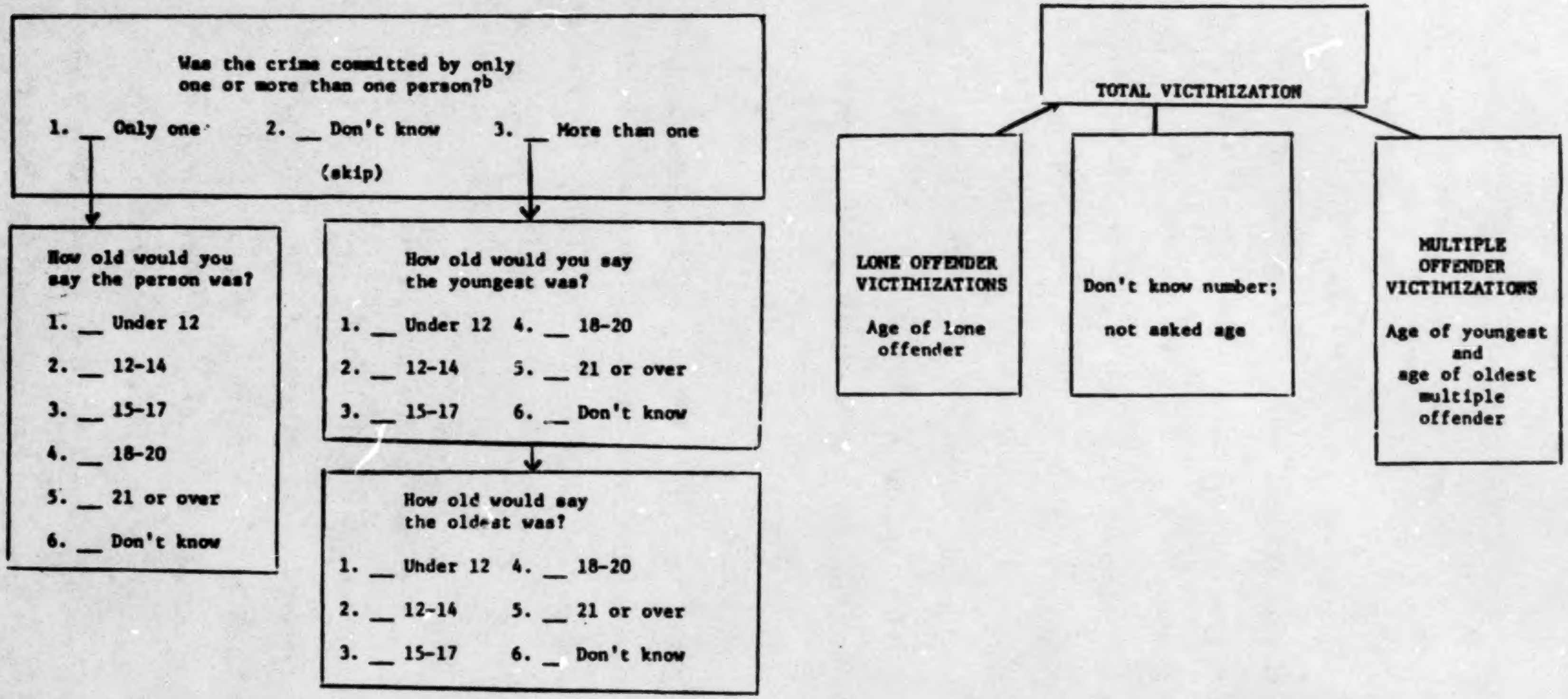
Appendix C

Offender Age in National Crime Survey Data

In the National Crime Survey victims are asked several questions designed to yield information about characteristics of their offenders. Among these questionnaire items, specific questions deal with the victim's perception of the age of his or her offender(s). The victimization survey data collected in response to these offender age questions provide an opportunity to examine variations in criminal victimizations committed by offenders perceived by their victims to be under 18 years old (juveniles), 18 to 20 years old (youthful offenders), or 21 or older (adults). This appendix provides explanation of and documentation for the various offender age variables which were created and used in this report and its companion reports in this series.

In order to understand fully the nature of the offender age data obtained in the National Crime Survey it is necessary first to review the questions asked of survey respondents who were victimized in face-to-face encounters. Figure C1 illustrates these questions. The first question asked about offender characteristics is whether the crime was committed by only one or more than one person. If the victim reports that there was only one offender, he or she is asked the age of the lone offender. If more than one offender was involved, the victim is asked to report both the age of the youngest multiple offender and the age of the oldest multiple offender.

Figure C1 Offender age questions in the National Crime Survey[a]



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[a] See Appendix B: National Crime Survey Household Interview Questionnaire, Incident Report, questions 11, 11b, 11h, and 11i, and in other volumes of this series, National Crime Survey Commercial Interview Questionnaire, Incident Report, questions 6a, 6b, 6e, and 6f.

[b] This question is different in the commercial surveys. See commercial incident questions 6a.

A few important considerations emerge from an examination of Figure C1. First, "don't know" offender age responses are obtained from two groups of victims. One group is those who did not know whether the crime was committed by one or more than one offender. Generally, this group does not constitute a large proportion of the total victims. For example, in the NCS national sample for the years 1973 to 1977 in about 6 percent of the total personal victimizations (including rape, robbery, the assaults, and personal larceny) the victim did not know whether one or more than one offender was involved. The second group consists of victims who knew whether there was one or more than one offender, but did not know the offender's age. For this reason, in an additional 4 percent of the incidents the age of the offender was not ascertained.

Second, because victims of more than one offender (multiple offenders) are asked to report both the ages of the youngest and the oldest multiple offender, the survey data have three major offender age variables: 1) the perceived age of the lone offender, 2) the perceived age of the youngest multiple offender, and 3) the perceived age of the oldest multiple offender.

Third, the NCS interview schedules produce rather fine offender age categories only for offenders perceived to be less than 21 years old. From the victims response, the interviewer records the offender age as under 12 years old, 12 to 14, 15 to 17, 18 to 20, or 21 or older. This means that detailed offender age information is available only for victimizations committed by offenders perceived to be less than 21 years old. In the analyses in this report, offenders perceived by their victims to be under 18 years old are juveniles, those perceived to be between 18 and 20 years old are youthful offenders, and those perceived to be 21 or older are adults.

Table C1 shows the offender age variables that were used in the analysis for this report. Variables A, B, and C are the three major offender age variables in the NCS data: detailed age of lone offender, detailed age of the youngest multiple offender, and detailed age of the oldest multiple offender. Variables AA, BB, CC are ordinary recodes of these variables; they simply categorize together all offenders perceived to be under 18 years old.

The primary focus of much of the analysis in this report is on the incidents of victimization by juveniles, youthful offenders, and adults. Therefore it was necessary to create an offender age variable that would express the percent of the total victimizations (minus the small percentage in which the victim did not know whether there was one or more than one offender) attributable to offenders in different age categories, regardless of whether the incident involved lone or multiple offenders. To do this, variable D was created from variables A (detailed age of lone offender) and C (detailed age of oldest multiple offender) in the following manner:

Condition		Value
If A=1, under 12 or if C=1, under 12	then	D=1, under 12
If A=2, 12-14 or if C=2, 12-14	then	D=2, 12-14
If A=3, 15-17 or if C=3, 15-17	then	D=3, 15-17

If A=4, 18-20
or if C=4, 18-20 then D=4, 18-20

If A=5, 21 or older
or if C=5, 21 or older then D=5, 21 or older

If A=6, Don't know age
or if C=6, Don't know age then D=6, Don't know age

Thus, when variable D (see Table C1) has the value of "1", under 12, this includes all lone offender victimizations committed by offenders perceived to be under 12 years old, plus all multiple offender victimizations in which the oldest multiple offender was perceived to be under 12 years old. Variable D makes possible an examination of victimizations committed by offenders in various age groups, whether the incident involved only one or more than one offender. Variable DD is an ordinary recode of the detailed age of offender into juveniles (under 18), youthful offenders (18 to 20), and adults (21 or older).

The detailed age of the *oldest* multiple offender (variable C), rather than the detailed age of the *youngest* multiple offender (variable B) was used to create variable D in order to insure that the perceived age of all offenders in any given offender age category did not exceed the upper limit of the age category. This is because there are some incidents in which the age composition of the multiple offender group is varied (e.g. the youngest might be 14 and the oldest might be 18). Table C2 shows that a mixed-age multiple offender group was reported in fewer than one out of three multiple offender victimizations. In two-thirds of the multiple offender victimizations the youngest and oldest multiple offenders were both perceived to be under 18 (28 percent),

Table C1 Offender age variables

Variable name	Values
A. Detailed age of lone offender	1=Under 12, 2=12-14, 3=15-17, 4=18-20, 5=21 or older, 6=Don't know
B. Detailed age of youngest multiple offender	1=Under 12, 2=12-14, 3=15-17, 4=18-20, 5=21 or older, 6=Don't know
C. Detailed age of oldest multiple offender	1=Under 12, 2=12-14, 3=15-17, 4=18-20, 5=21 or older, 6=Don't know
D. Detailed age of offender[a]	1=Under 12, 2=12-14, 3=15-17, 4=18-20, 5=21 or older, 6=Don't know
AA. Age of lone offender	1=Under 18, 2=18-20, 3=21 or older, 4=Don't know
BB. Age of youngest multiple offender	1=Under 18, 2=18-20, 3=21 or older, 4=Don't know
CC. Age of oldest multiple offender	1=Under 18, 2=18-20, 3=21 or older, 4=Don't know
DD. Age of offender[a]	1=Under 18, 2=18-20, 3=21 or older, 4=Don't know

---

[a] Includes perceived age of lone and perceived age of oldest multiple offender.

Table C2 Ages of youngest and oldest multiple offenders in personal victimization, NCS national data, 1973-1977 aggregate[a]

Ages of youngest and oldest multiple offender	Percent		Estimated number of victimizations
Both under 18	27.9	65.3	2,821,802
Both 18 to 20	9.6		972,372
Both 21 or older	27.8		2,810,194
Youngest under 18/oldest 18 to 20	11.3	28.3	1,140,592
Youngest under 18/oldest 21 or older	5.7		574,249
Youngest 18 to 20/oldest 21 or older	11.3		1,141,134
Error cases[b]	0.2		18,068
Don't know age[c]	6.2		632,558
Total	100.0		10,110,969

---

[a] This table excludes incidents (about 6 percent of the total) in which the victim did not know whether there was one or more than one offender. Also excluded are lone offender victimizations.

[b] In a few cases the youngest offender was recorded in the interview as older than the oldest offender.

[c] Don't know age of youngest, age of oldest, or both.

both 18 to 20 (10 percent), and both 21 or older (28 percent).

Because of the mixed-age multiple offender groups, in order to guarantee that no category of the detailed age of offender variable would include incidents that involved multiple offenders older than the upper limit of the category specified, it was necessary to use the age of the oldest multiple offender. However, because the majority of multiple offender incidents involved same-age offenders, the results of the analysis would not differ substantially if the age of the youngest multiple offender had been used in variable D.

Accuracy of Victims' Perceptions of Offenders' Characteristics

Most of the analyses in this monograph depend upon the ability of victims to make at least crude distinctions among offenders of different age groups; to a more limited extent, there is also a dependence upon the victims' ability to make distinctions between offenders of different sexes and races. The research literature that exists in this area is limited almost exclusively to questions relating to the accuracy of victim and witness recall of offender identity (e.g., ability to pick the offender out of a lineup) and descriptions of what transpired during the event, rather than to questions about the offender's basic demographic characteristics such as age, sex, and race. Most of this research involves simulations or staged "crimes," often in front of groups of observers such as college students.[1] Although this research suggests that eye witness testimony regarding the identify of the actors involved and what transpired during the event are subject to substantial error, the research provides virtually no information about the ability of victims to report accurately about offenders' ages, sexes, and races. Presumably it is much less difficult for a victim simply to report these basic demographic characteristics than it is for a victim to identify a specific "offender" from among a "lineup" group of persons selected for inclusion in the lineup because they are demographically similar to each other. Because the available research literature did not shed much light on the accuracy of victims' perceptions of offenders' ages, sexes, and races, an attempt was made to study a sample of victims' reports of suspect characteristics (age, sex, and race) made at the time that the police took the offense report and the characteristics of arrestees who were subsequently arrested for these crimes. The data below are for rapes and attempted rapes reported to the police in New York City between 1974 and 1977.[2]

Of the three demographic characteristics -- age, race, and sex -- age is probably the most difficult for victims to estimate accurately. Table C3 shows a tabulation of suspect's age group as perceived by the victim at the time that the rape or attempted rape offense report was filed, and the arrestee's age group -- as determined from the arrestee's birth data -- as shown on the police arrest report. Suspect ages were reported for more than twelve thousand suspects and were reported as "don't know" for about nine hundred suspects. For most suspects (more than 8,000 out of 13,000), no arrest was made. Of those suspects for whom an arrest was made, the perceived age group and the arrest report age group are remarkably close. For example, of those arrested suspects perceived by the victim to have been under 14 years old,

Table C3 Correspondence Between Age of Suspect as Reported by Victim and Age of Arrestee as Shown on Police Arrest Records, New York City Rapes and Attempted Rapes, 1974-1977

	Arrestee's Age									
Suspect's Age	**Under 14**	**14-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-45**	**Over 45**	**No arrest**	**Total**
Under 14	97.1[a] (169)	2.9 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	— (76)[b]	100 (174)[c]
14-19	.6 (6)	95.7 (997)	2.7 (28)	.8 (8)	.2 (2)	0 (0)	0 (0)	.1 (1)	— (1,224)[b]	100 (1,042)[c]
20-24	.2 (2)	5.4 (56)	89.3 (930)	3.8 (40)	.9 (9)	.3 (3)	0 (0)	.1 (1)	— (2,196)[b]	100 (1,041)[c]
25-29	.1 (1)	1.1 (11)	5.3 (55)	90.0 (933)	2.4 (25)	.8 (8)	.3 (3)	.1 (1)	— (1,945)[b]	100 (1,037)[c]
30-34	0 (0)	.5 (3)	1.9 (12)	4.1 (26)	90.4 (577)	1.9 (12)	1.1 (7)	.2 (1)	— (1,055)[b]	100 (638)[c]
35-39	0 (0)	0 (0)	.9 (4)	1.8 (8)	2.9 (13)	89.4 (397)	3.2 (14)	1.8 (8)	— (533)[b]	100 (444)[c]
40-45	0 (0)	.7 (2)	.3 (1)	.3 (1)	2.0 (6)	2.0 (6)	91.1 (278)	3.6 (11)	— (294)[b]	100 (305)[c]
Over 45	0 (0)	.7 (2)	0 (0)	.7 (2)	.3 (1)	.3 (1)	2.1 (6)	95.8 (276)	— (182)[b]	100 (288)[c]
Don't Know	4.4 (2)	21.7 (10)	13.0 (6)	26.1 (12)	15.2 (7)	4.4 (2)	8.7 (4)	6.5 (3)	-- (848)[b]	100 (46)[c]

[a] Row percent.

[b] "No Arrests" excluded from row percent.

[c] Excludes "No Arrests."

arrest records showed that 97 percent were actually under 14. For those suspects perceived to be 14 to 19, 95 percent of the arrestees were 14 to 19. In fact, for no suspect age group is the victims' accuracy rate less than 89 percent. The overall ordinal measure of association (Somers' d) between suspect and arrestee's age for arrested rapists is .95.

The age groups for those under 21 are somewhat cruder, and those over 21 are finer, than in the NCS data.. Nonetheless, the agreement between victims' perceptions and arrestees' actual ages is remarkable. It is important to note parenthetically that the strength of this relationship does not diminish appreciably when only the victims and offenders who were strangers to each other are included in the analysis.

Because of the sexual nature of the offense of rape, the information on the correspondence between the suspect's and arrestee's sex is of limited value, but it is shown in Table C4. Of those suspects reported by victims to have been males and for whom an arrest was made, virtually all of them (99.8 percent) were male as judged from the police arrest report; of the 34 suspects reported by victims to have been females and for whom an arrest was made, 24 were male as judged by police arrest reports. The measure of association, phi -- the magnitude of which is severely limited owing to the extreme skewness of the sex distributions of suspects and arrestees -- is .73.

The last characteristic to be examined is race/ethnicity (Table C5). The race/ethnicity categories used here are finer than are those available in the NCS data, and hence provide a

Table C4 Correspondence Between Sex of Suspect As Reported by Victim and Sex of Arrestee As Shown on Police Arrest Records, New York City Rapes and Attempted Rapes, 1974-1977

Suspect's Sex	Arrestee's Sex Male	Female	No Arrest	Total
Male	99.8[a] (5,034)	.2 (8)	-- (8,240)[b]	100 (5,042)[c]
Female	29.4 (10)	70.6 (24)	-- (52)[b]	100 (34)[c]

[a] Row percent.

[b] "No Arrests" excluded from row percents.

[c] Excludes "No Arrests."

Table C5 Correspondence Between Race of Suspect As Reported by Victim and Race of Arrestee as Shown on Police Arrest Records, New York City Rapes and Attempted Rapes, 1974-1977

Suspect's	Arrestee's Race					No	
Race	White	Black	Hispanic	Oriental	Other	Arrest	Total
White	96.1[a] (597)	1.0 (6)	2.9 (18)	0 (0)	0 (0)	-- (1,244)[b]	100 (621)[c]
Black	.2 (7)	98.9 (3,179)	.8 (26)	0 (1)	0 (0)	-- (5,394)[b]	100 (3,213)[c]
Hispanic	.6 (7)	1.6 (19)	97.7 (1,167)	.1 (1)	0 (0)	-- (1,550)[b]	100 (1,194)[e]
Oriental	9.1 (1)	0 (0)	9.1 (1)	81.8 (9)	0 (0)	-- (28)[b]	100 (11)[c]
Other	0 (0)	7.7 (1)	23.1 (3)	0 (0)	69.2 (9)	-- (16)[b]	100 (13)[c]
Don't Know	33.3 (1)	0 (0)	66.7 (2)	0 (0)	0 (0)	-- (81)[b]	100 (84)[c]

[a] Row percent.

[b] "No Arrests" excluded from row percents.

[c] Excludes "No Arrests."

stricter test of the ability of victims to report on arrestees' race/ethnicity. Consistent with the age data, these data show that victim's reports of suspects' race/ethnicity are in close agreement with the arrest report data. The agreement is .95 as judged by the nominal measure of association lambda.

Of particular interest in connection with Table C5 is that according to Census Bureau procedures Hispanics are counted as white for purposes of racial classification. Hence in the NCS data, Anglo and Hispanic offenders are not categorized separately (see data collection instrument, Appendix A). It is possible that some victims perceive Hispanics as blacks and/or vice-versa. Thus it is important to note that very few victims misperceive Hispanics as blacks or blacks as Hispanics. Thus, from the New York City rape data this does not appear to be a significant source of measurement error.

These data regarding victims' ability to report on offenders' demographic characteristics are very encouraging. Although future research will have to sample a broader range of crimes and locales, the data suggest that some confidence in victims' reports of offenders' ages, races, and sexes, appears justified at this time.

NOTES

[1] See for example Buckhout (1974), Note (1977), Duncan (1976), Lieppe, Wells, Ostrom (1978), Clifford and Scott (1978), and Kuehn (1974).

[2] We are grateful to Dennis Butler of the New York City Police Department for making available these data from his current comprehensive study of rape.

APPENDIX D

Population Base Estimates

Table D1 Estimated population bases[a] by quarter, NCS national data, 1973-1978

1973:		1976:	
1st	40,749,698	1st	42,482,525
2nd	40,504,939	2nd	42,297,259
3rd	40,515,236	3rd	42,328,904
4th	40,603,036	4th	42,402,843
1974:		1977:	
1st	41,380,166	1st	43,011,919
2nd	41,176,961	2nd	42,876,214
3rd	41,116,036	3rd	42,829,673
4th	41,260,933	4th	42,959,338
1975:		1978:	
1st	41,949,035	1st	43,479,311
2nd	41,770,024	2nd	43,405,415
3rd	41,851,757	3rd	43,311,558
4th	41,880,221	4th	43,446,380

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[a] Does not include respondents whose race is classified as other (see footnote 19 for additional information).

Table D2 Estimated male population bases by year, quarter, race, and age, NCS national data, 1973-1978

Year, Race and Age	Quarter 1st	2nd	3rd	4th
1973				
White:				
12 to 17	2,695,430	2,697,903	2,697,630	2,696,844
18 to 20	1,197,853	1,183,042	1,178,321	1,191,395
21 or older	13,581,487	13,498,003	13,494,326	13,516,306
Black:				
12 to 17	437,815	23,626	427,699	421,811
18 to 20	177,197	154,858	167,745	166,766
21 or older	1,414,272	1,388,667	1,412,691	1,391,755
1974				
White:				
12 to 17	2,691,763	2,696,438	2,685,489	2,694,664
18 to 20	1,223,521	1,227,914	1,218,223	1,244,077
21 or older	13,824,709	13,745,555	13,728,853	13,761,352
Black:				
12 to 17	445,776	435,595	439,893	433,532
18 to 20	165,636	169,329	167,531	167,587
21 or older	1,459,334	1,424,607	1,435,188	1,428,234
1975				
White:				
12 to 17	2,676,182	2,681,187	2,693,037	2,677,744
18 to 20	1,239,450	1,250,245	1,237,949	1,244,292
21 or older	14,058,763	13,979,896	13,981,306	14,006,211
Black:				
12 to 17	448,190	435,905	452,931	439,050
18 to 20	174,018	173,407	177,529	174,643
21 or older	1,488,287	1,465,670	1,489,060	1,479,878
1976				
White:				
12 to 17	2,642,028	2,653,305	2,659,391	2,646,539
18 to 20	1,262,072	1,267,648	1,288,280	1,261,007
21 or older	14,271,172	14,209,606	14,165,352	14,250,543
Black:				
12 to 17	444,686	433,114	451,041	436,403
18 to 20	185,936	184,457	190,451	184,746
21 or older	1,529,240	1,501,050	1,504,459	1,510,300
1977				
White:				
12 to 17	2,588,848	2,605,783	2,611,940	2,595,297
18 to 20	1,280,132	1,264,453	1,286,950	1,302,802
21 or older	14,507,239	14,486,991	14,411,095	14,469,824
Black:				
12 to 17	451,311	435,776	448,095	437,095
18 to 20	193,196	189,861	193,740	175,436
21 or older	1,586,949	1,548,784	1,558,437	1,571,823
1978				
White:				
12 to 17	2,518,542	2,541,981	2,546,598	2,526,124
18 to 20	1,274,744	1,294,214	1,260,349	1,285,609
21 or older	14,752,991	14,707,916	14,703,265	14,765,896
Black:				
12 to 17	447,791	441,139	449,340	438,227
18 to 20	192,081	190,580	194,994	198,213
21 or older	1,621,828	1,607,856	1,585,631	1,589,099

Appendix E

Table E1 Type of crime definitions in the National Crime Survey

Type of crime	Definition
Rape	Carnal knowledge through the use of force or the threat of force, including attempts. Statutory rape (without force) is excluded. Includes both heterosexual and homosexual rape.
Robbery	Theft or attempted theft, directly from a person or a business, of property or cash by force or threat of force, with or without a weapon. This includes both:
Robbery with injury	Theft or attempted theft from a person, accompanied by an attack, either with or without a weapon, resulting in injury. An injury is classified as resulting from a serious assault if a weapon was used in the commission of the crime or, if not, when the extent of the injury was either serious (e.g., broken bones, loss of teeth, internal injuries, loss of consciousness) or undetermined but requiring 2 or more days of hospitalization. An injury is classified as resulting from a minor assault when the extent of the injury was minor (e.g., bruises, black eyes, cuts, scratches, swelling) or undetermined but requiring less than 2 days of hospitalization. And:
Robbery without injury	Theft or attempted theft from a person, accompanied by force or the threat of force, either with or without a weapon, but not resulting in injury.
Aggravated assault	Attack with a weapon resulting in any injury and attack without a weapon resulting either in serious injury (e.g., borken bones, loss of teeth, internal injuries, loss of consciousness) or in undetermined injury requiring 2 or more days of hospitalization. Also includes attempted assault with a weapon.

Table E1 (continued)

Simple assault	Attack without a weapon resulting either in minor injury (e.g., bruises, black eyes, cuts, scratches, swelling) or in undetermined injury requiring less than 2 days of hospitalization. Also includes attempted assault without a weapon.
Personal larceny with contact*	Theft of purse, wallet, or cash by stealth directly from the person of the victim, but without force or the threat of force. Also includes attempted purse snatching.
Personal larceny without contact	Theft or attempted theft, without direct contact between victim and offender, of property or cash from any place other than the victim's home or its immediate vicinity. In rare cases, the victim sees the offender during the commission of the act.

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*In this report personal larceny with contact is referred to simply as "personal larceny." This is a departure from the standard National Crime Survey definitions in which "personal larceny" includes both personal larceny with contact and personal larceny without contact.

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